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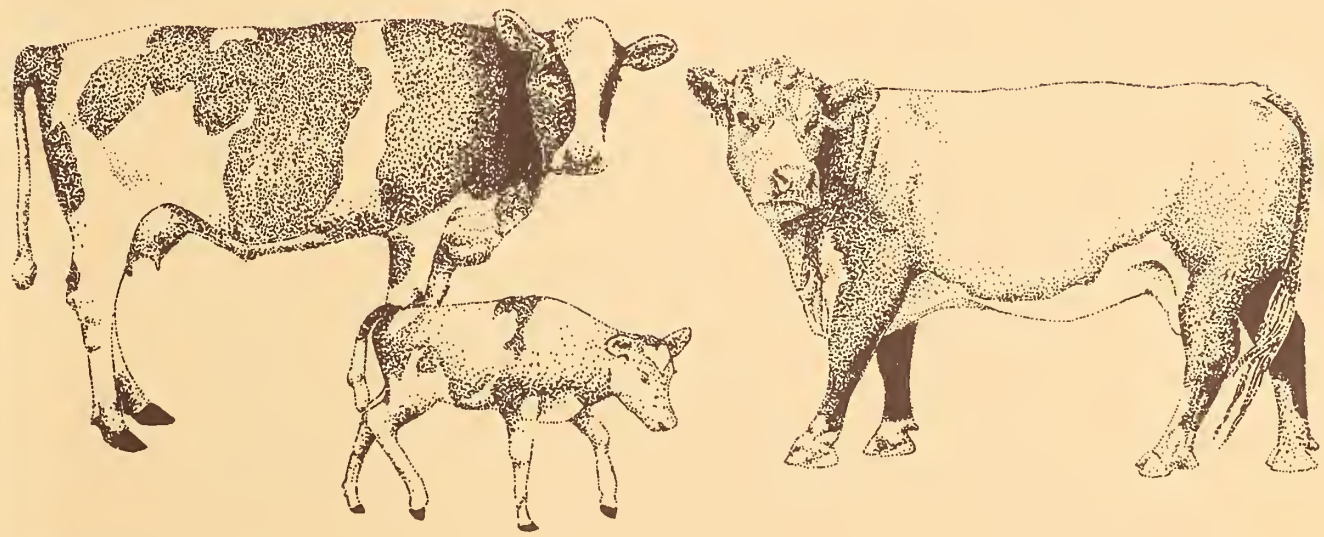
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MARKETING SLAUGHTER COWS and CALVES in the NORTHEAST

- PRESENT SYSTEM
- ALTERNATIVES for IMPROVEMENT



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SUMMARY

Analyses of cull cow and dairy calf prices received by farmers in the Northeast indicate these prices vary widely among States—as much as \$3 a hundredweight for cows and \$14 for calves. Cow prices are low in States with little slaughter activity, such as Virginia and West Virginia, putting producers there at a price disadvantage. Cow and calf prices in most Northeastern States appear low relative to those in three Midwestern States.

The problem is a fragmented marketing system coupled with a highly concentrated slaughter industry, making it difficult to get packer competition in many markets. This results in higher marketing costs and lower prices to producers than could be achieved with a more efficient and competitive marketing system.

The region annually produces 530,000 cull dairy cows, almost 200,000 cull beef cows, and slightly more than 1 million dairy calves for slaughter. New York, Pennsylvania, and Vermont account for 70 percent of the cull cows and dairy calves, while Virginia supplies almost 45 percent of cull beef cows. Marketings of cull dairy cows (and slaughter calves) are projected to decrease moderately in the next decade, partially offset by a slight increase in cull beef cow marketings.

The marketing system through which cull animals move in the Northeast is complex and characterized by a large number of auctions and dealers. In 1975, the area had 5 terminal markets, 189 auctions, and 867 dealers handling cattle and calves. Auctions were, on the average, small, low-volume operations with unit operating costs considerably above national averages. They handle the bulk of the cows and calves in most areas, but generally were too small to attract adequate packer buying competition.

Slaughter plants in the area are slowly increasing their share of the U.S. kill, now reaching more than 9 percent of U.S. cow slaughter and almost 50 percent of calf slaughter. While the Northeast has adequate slaughter capacity as a region, slaughter capacity is badly out of balance with available supplies in many States. In 1974, 374 federally inspected plants slaughtered 581,000 cows and 341 slaughtered 1.3 million calves. Most were very small-volume operations, while four firms handled 25 percent of cow volume. Larger operations buy animals over the whole region and also out of the area. Thus, the entire Northeast can be considered as a single market for cows and calves.

While evaluating alternatives, Northeast producers should seek a marketing system that will:

- Provide greater competition for livestock.
- Provide for more direct movement from producer to slaughterer.
- Increase efficiency of the marketing system.
- Improve pricing.
- Ensure uniform prices for animals of the same quality and weight.
- Provide for all livestock marketing needs of producers.
- Provide a timely market.
- Provide for producer control and commitment.

Producers theoretically have several alternative cull cow and dairy calf marketing systems that would meet these requirements. They include: Regional auction market centers owned and operated by either a local or a regional cooperative; a regional electronic sales exchange; a combined auction market center and electronic exchange; contract sales to packers; and control of a meatpacking operation through ownership or contract. Meat

retailing is considered viable only on a local basis. Each of these alternatives has advantages and disadvantages that need to be considered by producers.

This study suggests action is needed to improve cull cow and dairy calf marketing in the Northeast. The initiative for improving the marketing system must come from producers and their organizations. Therefore, a regional livestock marketing committee should be established to evaluate alternatives and initiate planning for an improved marketing system. Further study of selected alternative systems will be necessary.

MARKETING SLAUGHTER COWS AND CALVES IN THE NORTHEAST

Present System • Alternatives for Improvement

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INTRODUCTION

During recent times, Northeast dairymen have experienced relatively low price levels for cull dairy cows and calves while fed cattle were selling for relatively high prices. They have thus become seriously concerned about the ability of the present marketing system to effectively market their animals. They are searching for new marketing methods that will increase returns from their livestock. Their concern has resulted in some producer groups bypassing traditional marketing channels, such as selling cows direct to slaughterers in truckloads or selling meat directly to consumers.

As a result of this concern, the Pennsylvania Farmers' Association, and other Northeast Farm Bureaus, asked the Farmer Cooperative Service to study the region's marketing system and recommend methods for improving the marketing of cull dairy cows. The study's major emphasis was on the marketing of dairy and beef cows and dairy calves producers sell for immediate slaughter. While other types of livestock are produced in the Northeast, they received little consideration in this study. The area covered by this study included Maine, Vermont, New Hampshire, Connecticut, Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and 18 northeast Ohio counties.

Problems

During the course of this study, we met with several groups of producers to solicit their help in identifying marketing problems and possible solutions. A major problem producers perceived in marketing cows and calves is a lack of competition at auction markets. Closely related is the small volume of livestock handled by many auctions, making it difficult for them to attract packer buyers. Another problem is that the marketing chain is too long and expensive, with livestock moving through too many middlemen from farm to consumer.

Based on these meetings and analysis of the market structure, we conclude the problem is a fragmented marketing system that permits the continued operation of high-cost marketing facilities and fosters multiple handling of animals. At the same time, demand is concentrated among a few slaughterers. This, along with the fragmented marketing system, makes it difficult to get packer competition in many markets. For these reasons, the marketing system fails to reflect back to producers the final product value of their animals.

A critical problem in any efforts to improve the marketing system is the characteristics and habits of producers. Traditionally, most dairymen have given little attention to the marketing of their cull cows and dairy calves. They considered them byproducts of the

milk production enterprise to be disposed of as quickly and easily as possible. Besides, when it comes to marketing their cows and calves they tend to be very independent, making group action to improve marketing difficult to achieve.

NORTHEAST PRICE STRUCTURE

Analysis of Northeast cow and calf prices indicates producers in some States have a price disadvantage. Average 1970-75 prices varied among States by as much as \$3 a hundredweight for cows and \$14 to \$15 a hundredweight for calves (table 1).

Low cow prices in some States, such as Virginia and West Virginia, may be due in part to a lack of in-State slaughtering activity. But, the price differentials between these States and the important slaughtering States—Pennsylvania, for example—are too large to be explained by the cost of transporting cows between the States for slaughter. There appears to be little relationship between calf prices and in-State calf slaughtering activity.

Average Northeast cow and calf prices were low relative to those in three Midwest States, considering interregional transportation costs. Also, average cow prices appeared to be slightly lower than could be justified by wholesale prices for carcass cow beef.

A detailed analysis of the Northeast price structure is in appendix A.

LIVESTOCK SUPPLY

What follows is a look at total livestock production and marketing in the region with emphasis on slaughter cows and calves.

Types of Livestock Produced

Although dairying is the primary livestock enterprise in the Northeast, the region also produces a substantial volume of other types of livestock. In 1974, Northeast pro-

Table 1—Variations in average cow and calf prices from Pennsylvania's average price, Northeast, 1970-75

State	Cows	Calves
<i>Dollars per cwt.</i>		
Pa.	0	0
N.Y.	- .70	- 6.30
Mass.	- .80	¹ -15.20
Maine	- .90	¹ -15.10
N.J.	- .90	- 2.90
Conn.	-1.00	¹ -15.00
R.I.	-1.00	¹ -15.00
Md.	-1.10	- .70
Del.	-1.20	- 1.00
Ohio	-1.20	+ .30
N.H.	-1.20	¹ -15.20
Vt.	-1.70	-13.90
Va.	-2.20	- 5.70
W.Va.	-3.00	² - 5.80
Average	-1.10	- 5.50

¹Variation from Pa.'s 1970-74 average price of \$48.10 a cwt.

²Excludes 1975 average prices in Mass., Maine, Conn., R.I., and N.H.

Source: Table A3.

ducers marketed 1.2 million cattle, 1.3 million calves, 2.2 million hogs and pigs, and 400,000 sheep and lambs.

Cattle and Calves

The Northeast had a herd of nearly 3.7 million cows on January 1, 1975 (app. table 1). Dairy cows accounted for 65 percent of the herd, and 35 percent were beef cows. Beef cows make up the majority of the herd in Virginia and West Virginia, but also are relatively important in Pennsylvania (20 percent), Maryland (33 percent), and northeastern Ohio (48 percent). During 1970-75, the region's dairy cow herd declined by 12 percent, while the beef cow herd expanded by 37 percent. Major beef herd expansion occurred in Pennsylvania, Virginia, and New York.

Pennsylvania, Virginia, and New York are the important cattle-producing States, accounting for 73 percent of the region's 1974 marketings (app. table 2). Northeast producers marketed 15 percent fewer cattle in 1974 than in 1969, counter to the national trend. Most States showed some downward trend, but Pennsylvania accounted for 47 percent of the region's loss.

New York, Pennsylvania, Virginia, and Vermont marketed 76 percent of the region's calves (app. table 3). Calf marketings declined by nearly 29 percent between 1969 and 1974, about the same as in the Nation. The major contraction occurred in New York and Pennsylvania, which accounted for 60 percent of the loss.

Cull dairy cows and dairy calves account for most of the region's cattle and calf marketings except in Virginia and West Virginia where beef types predominate.

Hogs and Pigs

Virginia, Pennsylvania, and Maryland marketed 76 percent of the Northeast's hogs and pigs in 1974 (app. table 4). The region's hog marketings rose by 2.5 percent during 1969-74, the only species to show an increase and in contrast with the national trend. All of the increase except 1,000 head came from Delaware, Maryland, and Virginia where hog marketings rose by 9 to 49 percent. Large declines were recorded in New York and New Jersey.

Sheep and Lambs

Sheep and lamb production is of little importance in most of the Northeast, with 9 States marketing 11,000 or fewer in 1974 (app. table 5). Sheep are important in Virginia, West Virginia, and Pennsylvania where 79 percent of the region's sheep and lambs were marketed in 1974. Sheep and lamb marketings declined by 9 percent between 1969 and 1974. This follows the general down trend throughout the country but at a slower rate.

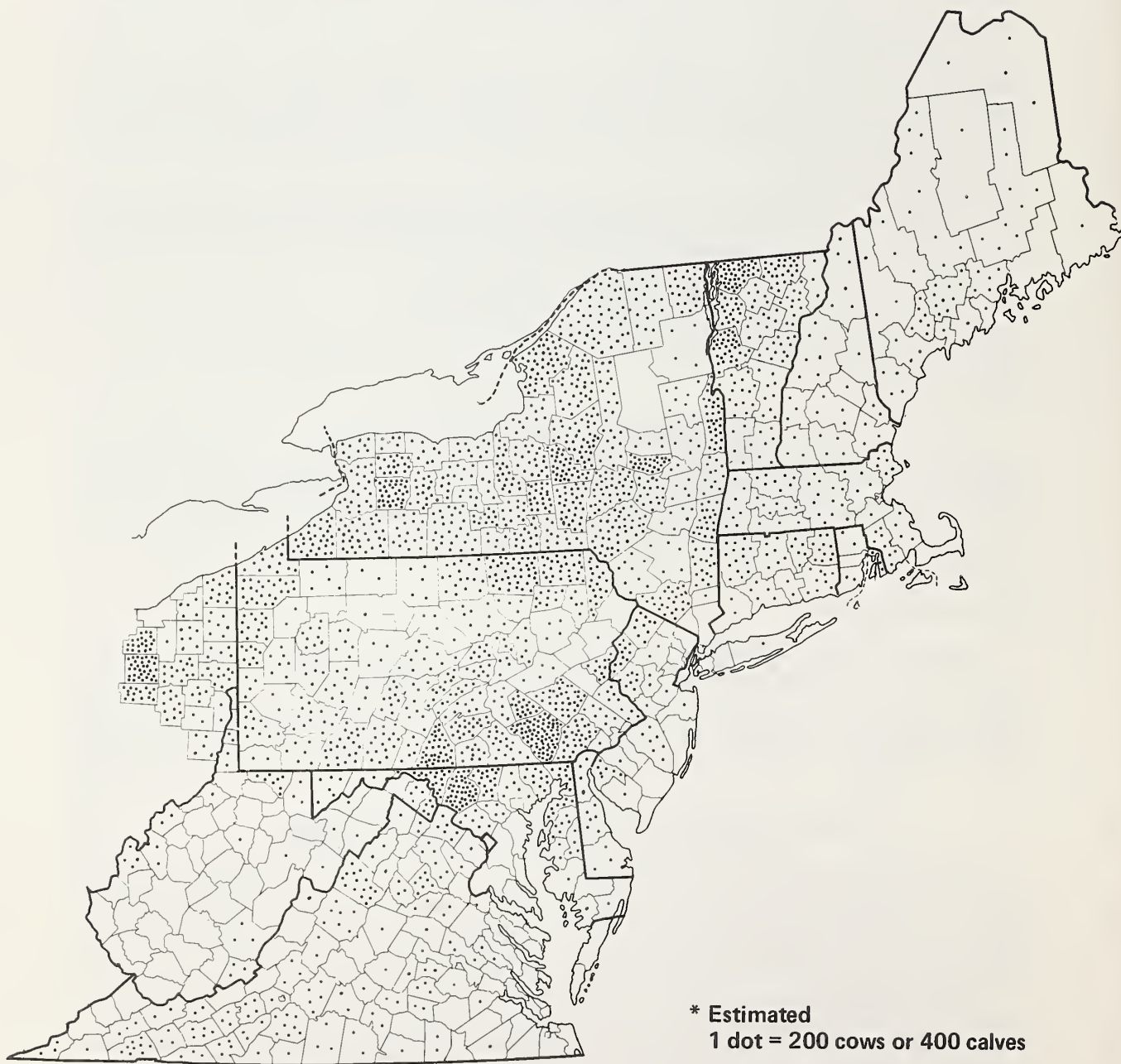
Cows and Calves Available for Slaughter

In 1975, about 731,000 cows and 1,017,200 dairy calves were available for slaughter in the Northeast (table 2). Of the cows, 534,100 were dairy cows and 196,900 beef cows. Three States—New York, Pennsylvania, and Virginia—provided more than 68 percent of the cows, and two States—New York and Pennsylvania—63 percent of the dairy calves. More than three-fifths of the beef cows came from Virginia and West Virginia.

The geographic location of dairy and beef cows and dairy calves available for slaughter is shown in figures 1 and 2. These figures should be useful in any effort to restructure the present marketing system.

The estimates of cows and dairy calves available for slaughter were developed by

**Figure 1 -- Location of Dairy Cows and Calves
Available for Slaughter,
Northeast, 1975***



**Figure 2 -- Location of Beef Cows
Available for Slaughter,
Northeast, 1975***

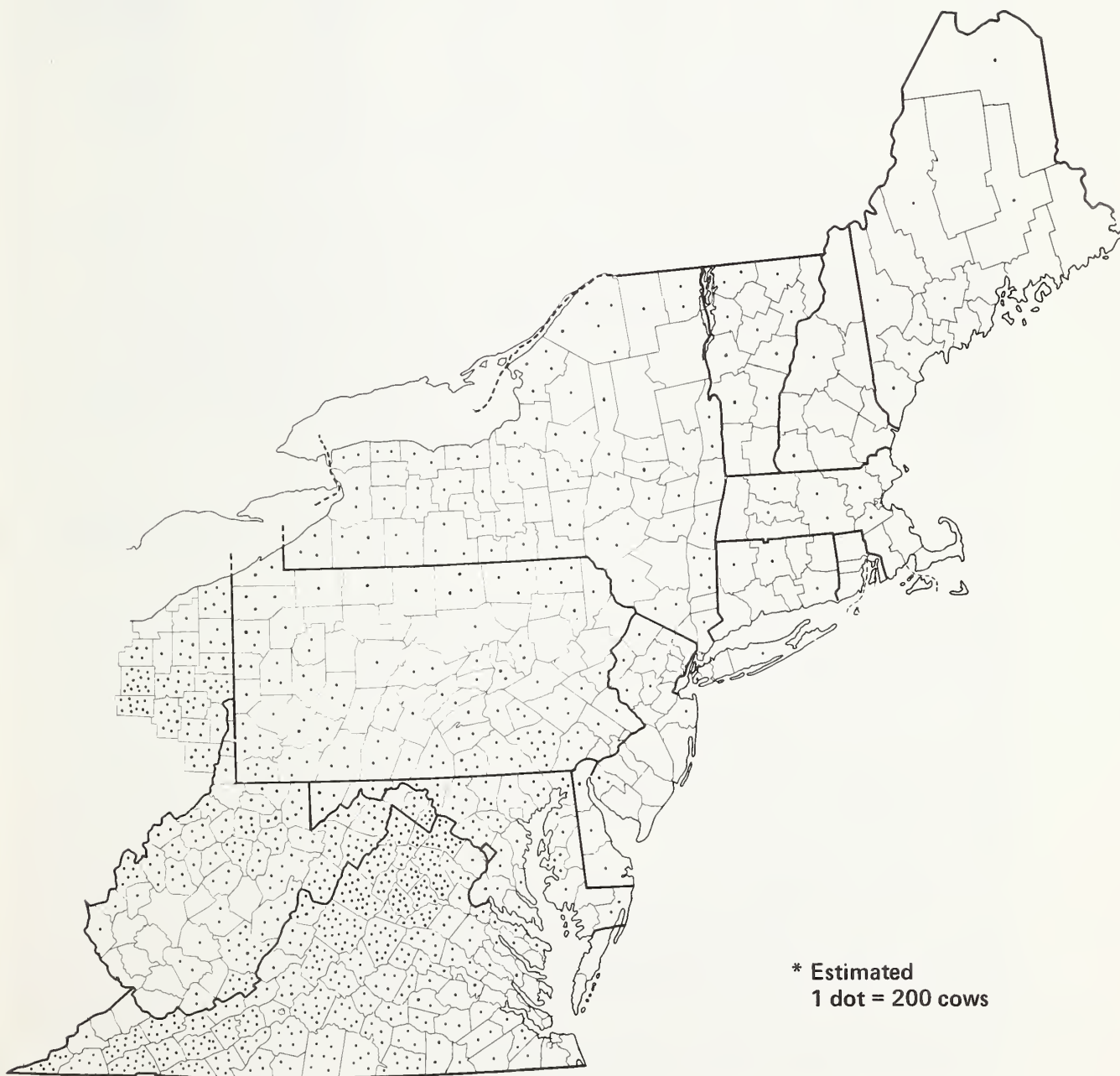


Table 2—Estimates of cows and dairy calves available for slaughter, Northeast, 1975

State	Cows			Dairy calves
	Dairy	Beef	Total	
	<i>Number</i>			
Maine.....	12,600	1,700	14,300	24,000
N.H.....	6,900	700	7,600	13,200
Vt.....	40,300	2,000	42,300	76,800
Mass.....	11,600	1,100	12,700	22,000
R.I.....	1,300	100	1,400	2,400
Conn.....	11,600	1,000	12,600	22,000
N.Y.....	193,200	17,500	210,700	368,000
N.J.....	10,100	2,000	12,100	19,200
Pa.....	144,100	24,600	168,700	274,400
Del.....	2,700	700	3,400	5,200
Md.....	29,000	9,700	38,700	55,200
Va.....	33,400	86,900	120,300	63,600
W. Va.....	8,600	31,600	40,200	16,400
N.E. Ohio.....	28,700	17,300	46,000	54,800
Total	534,100	196,900	731,000	1,017,200

applying average marketing rates to dairy and beef cow populations. The rates used are:

—For every 100 dairy cows on farms, 21 are marketed for slaughter annually.

—For every 100 dairy cows on farms, 40 calves are marketed for slaughter annually.

—For every 100 beef cows on farms, 14 cows are marketed for slaughter annually.

These are assumed to be average marketing rates during periods of static cow populations. They would not provide accurate estimates during herd expansion or liquidation periods.

Seasonality of Marketing

Cull cows and dairy calves, like other livestock, are marketed unevenly throughout the year. A marketing system, therefore, needs to have the capacity to handle peak marketings.

Dairymen tend to increase cow culling rates in the fall to avoid carrying poor producers through the barn feeding season.¹ Beef cow operators also tend to increase cow culling in the fall after calves are weaned. We do not have direct information on the magnitude of the variation in seasonal culling and, thus, marketings. However, seasonal variations in Northeast cow slaughter do provide some clues (table 3). Cow slaughter is heaviest from October through January and lightest in April through July. This slaughter information suggests that the rate of fall and winter marketing is about 30 percent greater than in spring and summer. To the extent cows are imported seasonally into the Northeast for slaughter, the index numbers would tend to overstate Northeast cow marketings in the spring and summer months.

Slaughter information also indicates that the seasonality of calf marketings is similar to cow marketings—heavy in the fall and winter and light in the spring and summer—with peak marketings in March. The estimate of magnitude of seasonal variation in calf marketings, however, is not as reliable as for cows, because a relatively high proportion (28 percent) of total calves slaughtered are imported into the region.

¹Adoption of a base-excess milk pricing plan in the New England and New York-New Jersey Federal order areas may change the seasonality of cull dairy cow marketings.

Table 3—Indexes of seasonal variation in federally inspected cow and calf slaughter, Northeast, 1970-75

Month	Cows	Calves
January	111	108
February	96	96
March	102	123
April	88	95
May	91	83
June	80	73
July	86	86
August	102	102
September	103	106
October	118	111
November	117	109
December	106	108
Average	100	100

Source: Computed from unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr.

Future of Dairy and Beef Industries

We have to project two basic factors to predict future dairy cow and calf marketings. First is the future profitability of dairy farming in the area, and second, the type of surviving dairy farm enterprise.

Dairy profitability will depend on several factors. Most important is the future demand for bottled milk in the area. Other factors include general price levels for milk in relation to input costs, labor availability, and availability of alternative farm enterprises and off-farm employment opportunities.

The Northeast now has the slowest population growth in the United States. The people there also have the highest per capita consumption of fluid milk. Therefore, we see little opportunity for increased demand for fluid milk. Neither do we foresee a significant improvement in milk production and marketing efficiency in the next decade. All things considered then, we project little or no change in the demand for dairy products or profitability for the present size dairy enterprise in the next 10 years.

The typical dairy farm in the Northeast will change but this will not have a great effect on the future supply of dairy beef. The area is characterized by a very large percent of small herds—less than 40 cows. In the future, economic pressures will force most of these small farms out of business. Survivors will be well-managed, large-size units and some highly productive small farms. These farms will have fewer cows producing the same amount of milk as at present. This decreased number of cows will produce fewer slaughter cows and calves for market.

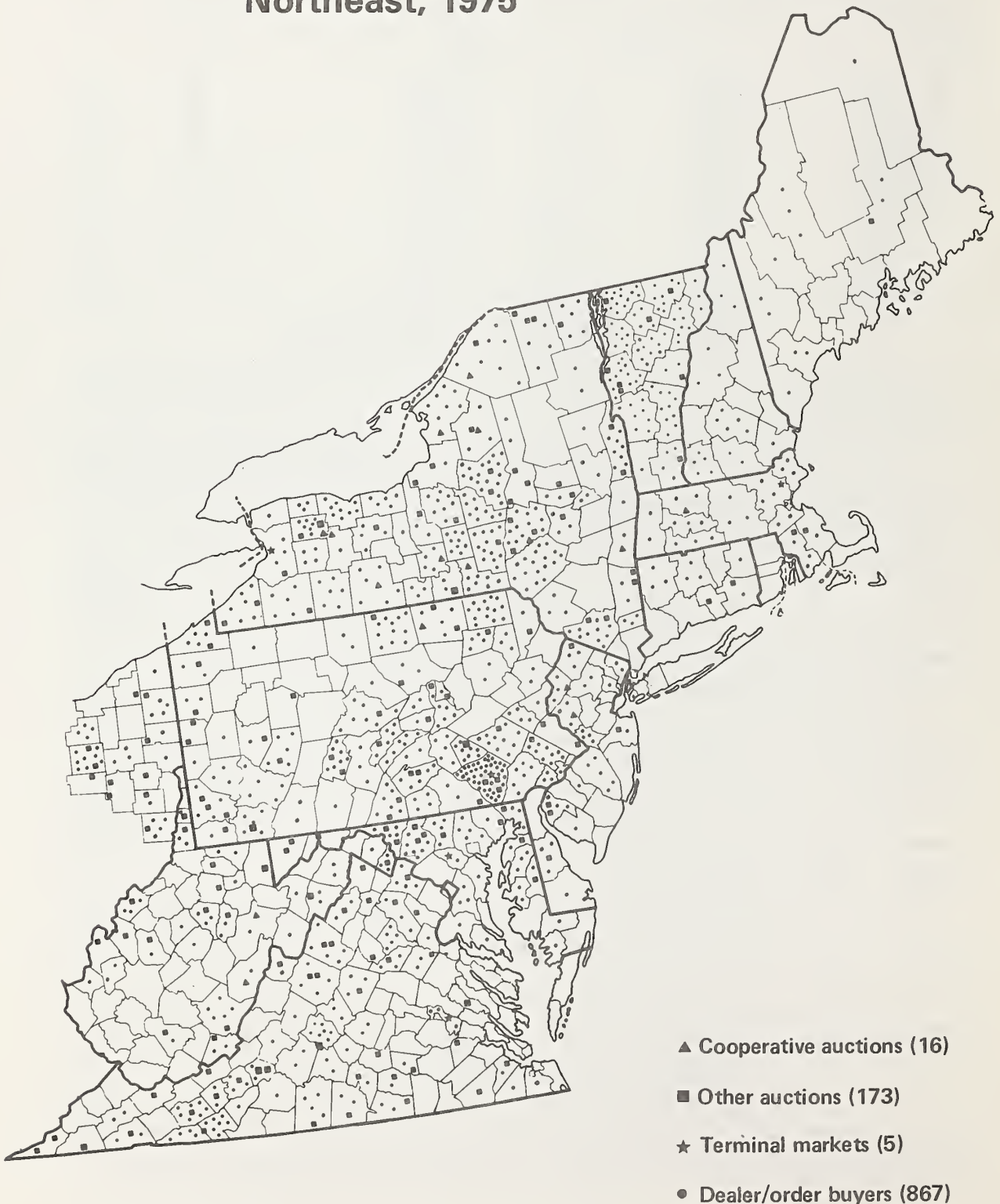
The beef industry in the Northeast is basically cow-calf operations; there is little cattle finishing in the area. We anticipate a slow growth in cow-calf operations in the southern part of the region and in areas with declining dairy production where the terrain is best suited for livestock production.

In summary, we foresee a slight decline in the number of cull dairy cows and calves marketed each year. Offsetting this will be some increase in cull beef cow marketings.

PRESENT MARKETING SYSTEM

It is important to examine the present marketing system to determine its strengths and weaknesses before attempting to develop a new or improved marketing system. Knowledge of the present system may also reveal ways some of its parts may be used to structure a new system.

Figure 3 -- Location of Auctions, Terminal Markets, and Dealer/Order Buyers Handling Cattle Northeast, 1975



Northeast producers market cull cows and dairy calves through terminal and auction markets, to dealers, and direct to slaughterers. In 1975, there were 5 terminals, 189 auctions, and 867 dealers handling cattle and calves (fig. 3). Auctions were the major market. Importance of other market outlets varied substantially from one section to another.

Terminals

In 1964, the 6 terminals in the Northeast handled 541,000 cattle and 119,000 calves. In the following decade, two terminals closed and one opened. Total terminal volume declined throughout the period until in 1974, cattle numbered 212,000, a drop of 61 percent; and calves numbered 60,500, a drop of 49 percent. We do not anticipate any significant change in the operations of these terminals in the next 5 to 10 years. They will continue to handle only a small volume from a rather restricted area.

Auctions

Number and Location

In 1975, 189 Northeast auctions handled cattle only or cattle and calves—down from 224 in 1969 and 229 in 1965. Number of auctions by States is shown for selected years through 1975 in appendix table 6. Since 1965, auctions have declined 17 percent. We expect some further decline, although we expect it to be modest.

Two-thirds of the auctions (124) are in New York, Pennsylvania, and Virginia. At the other extreme, New Hampshire and Rhode Island have no auctions and Maine, Massachusetts, Connecticut, and Delaware each have three or less. The number and location of auctions do not appear to bear a strong relationship to cattle and calf supplies.

Types and Volume of Livestock Handled

Cattle and calves account for 2.8 million, or 85 percent, of the 3.3 million animal units² handled by Northeast auctions in 1974 (table 4). Cattle were most important to auctions in Virginia, West Virginia, Pennsylvania, and northeastern Ohio, and calves in New England, New York, and New Jersey. The large number of feeder cattle moving through auctions in the southern portion of the Northeast account for the overriding importance of cattle to auctions in that area. Throughout much of the region, however, cull cows and dairy calves account for the bulk of cattle and calves handled.

Hogs accounted for 12 percent of volume and were most important in northeastern Ohio, Delaware, and Maryland. Sheep accounted for only 3 percent of volume and were significant only in West Virginia, where they accounted for 10 percent of the State's auction volume.

The overriding importance of cull cows and dairy calves to Northeast auctions indicates that if producers successfully establish a new marketing system for a significant portion of these animals, present auctions would be left with only a small volume of other livestock to handle. Many smaller auctions probably would cease operations, leaving some producers with no close market outlet for their other livestock. Thus, in developing any new system, planners should consider its impact on the marketing of other kinds of livestock—hogs, feeder pigs, finished cattle, feeder cattle, bulls, sheep, and lambs—that now move with cull cows and slaughter calves through these auctions.

Cattle and Calf Volume.—Northeast auctions reporting physical volume, excluding those in northeastern Ohio, handled 1.44 million cattle in 1974—200,000 more than total

²An animal unit is 1 head of cattle, 1 calf, 3 hogs, or 4 sheep.

farm marketings in the region. Calf volume was 1.17 million, or 91 percent of farm marketings. Volume by State is shown in appendix tables 7 and 8.

Cattle volume in Maine, as a portion of farm marketings, was very small. In all other States, except Vermont and Massachusetts, cattle auction volume was 50 percent or more of farm marketings and in four States it exceeds farm marketings.

Auction calf volume, like cattle, was insignificant as a portion of farm marketings in some States while in others it exceeded farm marketings.

The importance of reported auction volume in any State, as measured against that State's farm marketings, will be overstated to the extent cattle and calves move through two or more auctions in the same State. Also, animals that move through auctions in two or more States get counted in each State total. It appears that many cattle were handled by two or more auctions in Pennsylvania, Virginia, and West Virginia and calves in New Jersey, Pennsylvania, and Virginia. Further, this suggests feeder cattle and calves are double handled more frequently than are slaughter cows and calves.

Size

Information on auction cattle and calf volume strongly suggests that most Northeast auctions are not large enough to be effective marketing agencies. Thirty-six of 181 Northeast auctions handled less than 2,000 cattle in 1974, or less than one 40-head truckload a week (table 5). Ninety-one auctions, half those reporting, handled fewer than 6,000 cattle, or three truckloads a week and accounted for only 16 percent of total volume. At the other extreme, the 50 largest auctions (28 percent) handled 65 percent of cattle volume. Size of cattle auctions by State is shown in appendix table 9.

A different situation existed with auction calf volume—most calves moved through small auctions. One hundred, or more than half the auctions, handled fewer than 6,000 calves in 1974, or half a truckload or less a week. Another 50 auctions handled between one-half and one truckload a week. Together, these 150 auctions accounted for about 60 percent of auction calf volume (table 6). In contrast with the large portion of cattle (65 percent) moving through large-volume auctions, only 18 percent of total calf volume moved through the 9 auctions with large individual calf volume. Size of calf auctions by State is shown in appendix table 10.

Efficiency

Based on information from several studies and knowledgeable industry people, we have adopted some broad guidelines to evaluate auction efficiency. Generally, auctions handling fewer than 20,000 animal units a year tend to be inefficient. Auctions handling 20,000 to 30,000 animal units a year are on the borderline; while those handling more than 30,000 animal units generally have enough volume for efficient operation.³ Of the 181 Northeast auctions for which volume data were available, 124 or 68 percent handled fewer than 20,000 animal units. Of these, nearly half handled fewer than 10,000 animal units. Only 27 auctions in the entire Northeast handled 30,000 or more animal units in 1974 (table 7).

In 1973, the average Northeast auction handled 18,297 animal units at an average animal unit cost of \$4.25, or \$2.10 per \$100 of livestock value (table 8). The range was

³The average Northeast auction handled 18,140 animal units in 1974. A study of auctions for 1972 showed that North Atlantic auctions are, on average, the smallest of any region and are only 60 percent as large as the national average. Source: Stoddard, Everett O. 1975. *An Economic Analysis of Cost of Services and Value of Service Tariffs in the Livestock Auction Industry*. College Park, Md., Univ. of Maryland. Unpublished Ph.D. dissertation.

Table 4—Auction volume, by class or species, Northeast, 1974¹

State	Animal units ²				
	Cattle	Calves	Hogs	Sheep	Total
	<i>Number</i>				
N. Eng. ³	55,511	85,642	1,421	683	143,257
N.Y.	265,264	393,406	20,584	4,980	684,234
N.J.	18,587	46,731	2,443	3,610	71,371
Pa.	365,660	318,213	137,458	15,310	836,641
Del. & Md.	67,242	85,544	44,402	3,364	200,552
Va.	561,464	191,204	91,571	41,364	885,603
W. Va.	110,597	48,284	19,432	19,427	197,740
N.E. Ohio.....	125,861	64,706	62,077	11,269	263,913
Total	1,570,186	1,233,730	379,388	100,007	3,283,311

¹Excludes 12 auctions not reporting physical volume.

²An animal unit is 1 head of cattle, 1 calf, 3 hogs, or 4 sheep.

³Maine, N.H., Vt., Mass., R.I., and Conn.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Table 5—Auction cattle volume, Northeast, 1974

Head	Auctions	Total volume	
	<i>Number</i>	<i>Head</i>	<i>Percent</i>
Unknown.....	12	---	---
1-1,999	36	39,986	2.6
2,000-3,999	33	96,200	6.1
4,000-5,999	22	110,321	7.0
6,000-9,999	40	306,588	19.5
10,000-19,999	32	437,863	27.9
20,000-39,999	14	352,241	22.4
40,000-69,999	4	226,987	14.5
Total	193	1,570,186	100.0

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Table 6—Auction calf volume, Northeast, 1974

Head	Auctions	Total volume	
	<i>Number</i>	<i>Head</i>	<i>Percent</i>
Unknown.....	12	---	---
None.....	3	---	---
1-5,999	100	302,764	24.5
6,000-11,999	50	437,366	35.5
12,000-17,999	19	269,930	21.9
18,000-23,999	5	102,728	8.3
24,000-39,999	4	120,942	9.8
Total	193	1,233,730	100.0

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

from \$3.44 an animal unit in Virginia to \$5.38 in New York. The lower cost in Virginia can be attributed in part to the larger portion of animal units being feeder cattle and calves that are usually auctioned in groups. Cull cows and dairy calves are typically auctioned one at a time in most of the Northeast, an inherently costly and time-consuming practice.

Comparisons with auctions in four North Central States with high cattle populations again show the small size and relatively high cost of Northeast auctions. Average auction size in the North Central States in 1973 was 24,937 animal units, compared with 18,297 for the Northeast. Cost per animal unit was \$3.60 for the North Central group and \$4.25 for the Northeast. Cost per \$100 of livestock value was \$1.52 for the North Central and \$2.10 for the Northeast. Thus it cost \$2.1 million more to auction livestock in the Northeast than it would have cost for the same volume in the four North Central States.

Subassembly.—Some of the smaller auctions participate in a subassembly function: assembling livestock for movement to a larger market facility. Assembling livestock in this manner, however, is costly. Frequently there is a lack of effective competition during this assembly process. Multiple changes in livestock ownership among dealers mean extra selling commissions, additional transportation expense, and unnecessary shrinkage. Producers bear these added costs through lower prices, which indicate high costs in this segment of the marketing system. These numerous small auctions are perhaps the weakest link in the present Northeast livestock marketing system.

Buyer Competition

Packers acquire livestock from auctions through (1) salaried buyers, (2) order buyers, or (3) dealers who take title to the livestock and resell to the packer. Some dealers may have arrangements with one or more packers to buy the livestock they purchase.

Table 9 provides some indication of packer competition for cattle at auctions of various sizes. The table shows the number of packers operating on these auctions with salaried buyers, and buying more than 500 head of livestock in 1974. (Auctions are not required to identify smaller volume buyers.) It does not show the number of packers acquiring livestock through order buyers and dealers. For this reason, the information only indicates the size of auction cattle volume that tends to attract one or more packer buyers.

Of the 118 auctions handling less than 10,000 cattle, 71 auctions (60 percent) had no packer buyers purchasing 500 or more cattle in 1974. Only 16 auctions (14 percent) had three or more packer buyers. If three packer buyers would be considered the minimum for effective competition, then 131 auctions, or 78 percent, failed to meet this criterion in 1974. As indicated earlier, this only partly identifies packer buying activity.

Cooperative Activity

Cooperatives are of relatively minor importance in the Northeast livestock marketing system. There is one cooperative commission firm operating on the Buffalo terminal market (Producers-Empire); 14 cooperative auctions, mostly in New York; and one cooperative packing plant (Shen-Valley Meat Packers, Timberville, Va.).

The cooperative commission firm and cooperative packing plant have a very small portion of Northeast volume. The cooperative auctions, however, handle 11 percent of Northeast auction volume, and are of considerable importance in a few States. Cooperative auctions in Massachusetts, New York, and New Jersey handle a third to more than half the volume in those States.

Table 7—Auction volume, Northeast, 1974

Animal units	Auctions	Total animal units ¹	
	<i>Number</i>	<i>Number</i>	<i>Percent</i>
Unknown.....	12	---	---
1-19,999.....	124	1,260,699	38.4
20,000-29,999.....	30	774,672	23.6
30,000-49,999.....	21	791,402	24.1
50,000-119,999.....	6	456,538	13.9
Total.....	193	3,283,311	100.0

¹An animal unit is 1 head of cattle, 1 calf, 3 hogs, or 4 sheep.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Table 8—Sellers' average cost of marketing livestock through auctions, Northeast, 1973

State	Average animal units ¹ per auction	Cost per animal unit	Cost per \$100 of livestock value
	<i>Number</i>	<i>Dollars</i>	<i>Dollars</i>
N. Eng. ²	9,032	5.20	3.34
N.Y.....	18,915	5.38	3.02
N.J.....	18,115	4.73	3.08
Pa.....	21,100	3.80	1.72
Del. & Md.....	18,004	4.98	2.78
Va.....	23,038	3.44	1.54
W. Va.....	11,991	3.96	1.94
Average.....	18,297	4.25	2.10

¹An animal unit is 1 head of cattle, 1 calf, 3 hogs, or 4 sheep.

²Maine, N.H., Vt., Mass., R.I., and Conn.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Table 9—Auctions with indicated number of salaried packer buyers purchasing 500 cattle a year, by auction cattle volume, Northeast, 1974¹

Cattle	Number of packer buyers						Total
	None	1	2	3	4	5 or more	
	<i>Number</i>						
1 - 4,999.....	58	7	7	0	0	0	72
5,000 - 9,999.....	13	9	8	6	5	5	46
10,000 - 14,999.....	3	7	3	0	3	6	22
15,000 - 19,999.....	2	0	2	0	0	5	9
20,000 - 69,999.....	8	3	1	0	0	6	18
Total.....	84	26	21	6	8	22	167

¹Excludes packers buying through dealers and 22 auctions not reporting physical volume.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

New York's Empire Livestock Marketing Cooperative is the largest livestock cooperative in the Northeast. It operates a commission business on the Buffalo terminal and eight auctions in the heavy dairying areas of the State. Location of the 14 cooperative auctions in the Northeast is shown in figure 3.

Dealers⁴

Number and Location

In 1975, there were 937 registered livestock dealers in the Northeast, compared with 969 in 1969. More than half these dealers were registered in Pennsylvania and New York (app. table 11). As would be expected, most dealers handled cattle and calves—764 (82 percent) handling cattle and 481 (51 percent) handling calves. Figure 3 shows location of dealers by counties.

Method of Operation

Operations of dealers handling cull cows and dairy calves vary considerably. Many larger dealers buy cows and calves from several markets as well as from other dealers. These dealers may in turn buy direct from farmers or from the same or other auctions—frequently auctions more remote from major slaughter centers.

Larger dealers generally move livestock direct to packers. These dealers may take title to the cattle, but quite frequently they operate on commission, filling orders from one or more packers. Those that do take title often have packer orders or some purchase agreement with packers. A well-established and longstanding relationship often exists between a large-volume dealer and the packers he supplies and with other dealers who supply him with livestock.

Other dealers, usually small volume dealers, buy cull cows on one or more auctions for resale on still other auctions. These dealers are participants in the subassembly function of many small auctions. Their volume is small in total, but to the extent they buy and sell on these auctions they provide additional competition.

Still other dealers specialize in slaughter calves, feeder cattle and calves, dairy replacements, and dairy herd dispersals. Dealers in dairy replacement stock sometimes finance dairymen's purchases for varying periods of time. This relationship often results in the dealer being the only practical market for the dairyman's cull cows and dairy calves.

The simplest type of dealer operation is where the dealer buys direct from producers and resells at auctions to packers or other dealers. Many of them supplement their incomes by providing trucking services. They may either purchase livestock direct from the producer and truck it to market or haul the producer's livestock to market for a fee. The choice of selling to the dealer or having him haul the livestock to market provides a flexibility that is desirable to many producers.

The various relationships that exist between individual dealers and producers, large and small dealers, and dealers and packers signal a potential problem. Any new marketing program that seriously disturbs such long-term relationships is likely to generate deep-seated resistance.

Volume

The dealer structure is characterized by a relatively few dealers handling large volumes of cattle and calves, with the majority accounting for a small fraction of dealer vol-

⁴In this report, the term dealer also includes order buyers. Dealers take title to livestock while order buyers do not take title but buy on commission for others.

ume. Northeast dealers, excluding those in northeastern Ohio, that reported physical volume handled 869,296 cattle and 525,848 calves in 1974. Volume by State is shown in appendix tables 7 and 8. Dealer cattle volume was 18 to 28 percent of State farm marketings in New Jersey, New Hampshire, and Connecticut and from 70 to more than 100 percent in Pennsylvania, Maryland, Delaware, and Virginia. The four States with high dealer cattle volume relative to marketings had a large number of feeder cattle that tended to pass through two or more dealers' hands, and thus get counted more than once.

Dealer calf volume compared with farm marketings presents a different picture. West Virginia, Virginia, and Maryland (States with large feeder calf volumes) as well as Connecticut and Maine (largely dairy calf States) had dealer volume of less than 25 percent of marketings. On the other hand, dealer volume in New York and Pennsylvania (the largest calf marketing States) was 51 percent of marketings.

In addition to the problem of multiple counting that results when livestock moves between dealers, there is the further problem of dealer volume being credited to the State in which the dealer is registered even though produced and sold in another State. This apparently is the situation in West Virginia. Auctions in that State handled 48,284 calves but dealer volume was only 8,408. This indicates dealers from neighboring States are active on many West Virginia markets.

Concentration of Volume

The most outstanding feature of Northeast cattle and calf dealers is that a mere handful of the hundreds of dealers in the area handle the bulk of total dealer volume. Among dealers handling cattle, 41 handled 51 percent of total dealer volume (table 10). This was only 6 percent of the 702 dealers reporting physical volume. On the other hand, 586 smaller dealers—those handling less than 2,000 cattle a year—comprised 83 percent of the dealers but only 25 percent of the volume.

A similar relationship existed with respect to dealer calf volume except that it tended to be concentrated into even fewer hands. Ten dealers, 2 percent of those reporting, handled 50 percent of volume; just five dealers accounted for 35 percent of total volume (table 11). At the other extreme, 354 dealers, 81 percent, accounted for only 12 percent of volume.

The large-volume dealers, because of their sheer size, must acquire their cattle and calves from auctions and other dealers rather than from producers. Further, many of the intermediate-size dealers who sell to or buy for large dealers are, in themselves, of such size that they must acquire most of their volume from auctions and other dealers rather

Table 10—Dealer cattle volume, Northeast, 1974

Head	Dealers		Total volume	
	Number	Head	Percent	
Unknown.....	62	---	---	
1-999	519	151,175	15.5	
1,000-1,999	67	96,814	9.9	
2,000-4,999	75	235,088	24.1	
5,000-9,999	28	173,599	17.8	
10,000-19,999	7	86,900	8.9	
20,000-59,999	6	232,064	23.8	
Total	764	975,640	100.0	

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Table 11—Dealer calf volume, Northeast, 1974

Head	Dealers		Total volume
	Number	Head	Percent
Unknown.....	44	---	---
1-999	354	67,383	12.3
1,000-1,999	36	49,129	8.9
2,000-4,999	24	69,203	12.6
5,000-9,999	13	89,711	16.3
10,000-19,999	5	79,146	14.4
20,000-59,999	5	194,845	35.5
Total	481	549,417	100.0

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

than producers. This leaves a rather small dealer volume that could have been acquired from producers.

Market Preference

Most Northeast producers have two market outlets for their cull cows and slaughter calves—dealers and auctions. It appears that where auctions are convenient, producers will choose them over dealers as markets for their slaughter cows and calves.

Northeastern Ohio producers reported that dealers' role in that area was to buy and sell replacement heifers. Dealers, as markets for cull cows, accounted for only 1 percent of volume. By contrast, in nearby Warren County, Pa., dealers handled about half the cull cows producers market. In eastern Pennsylvania, dealers handled 5 to 10 percent while in central and south central Virginia, they were less important—2 to 5 percent of volume.

State Farm Bureau surveys indicate that in New Hampshire, a State with no auctions handling cattle, 73 percent of responding producers sold cull cows direct to dealers. In neighboring Vermont, with eight auctions, most producers sold cull cows through auctions. In Connecticut, it appears about one-fourth of the producers sold cull cows to dealers.

This limited information also indicates that, in most of the Northeast, producers market slaughter calves through auctions with dealers playing a comparatively minor role as primary markets.

Future of Auction-Dealer System

This study shows that most auctions in the Northeast have volumes too small either for efficient operation or to ensure effective competition. It points to the inefficient and costly subassembly function of some auctions. This activity is apparently supported by a price spread between producer and slaughterer wide enough to finance multiple changes in ownership, multiple sales commissions, and other costs.

It would appear that, with these inefficiencies, many auctions would cease operations and more efficient marketing methods would replace them. We doubt, however, that this is likely to occur in the next 5 to 10 years unless there is some unified and sustained action from outside the present auction-dealer system. Lacking such action, there will most likely be some reduction in the number of small inefficient auctions but this will have only local impact on livestock marketing. In many of these situations, dealers may become a more important outlet for producers' livestock.

Many inefficient auctions will continue to operate for such diverse reasons as: they provide operators with their best employment opportunity; the auction is an integral part of a larger livestock operation; or closing the facility would result in substantial capital loss. In general, we believe most auctions will continue to operate as long as revenue meets or exceeds out-of-pocket costs. Only when new capital is needed for such things as major repairs or replacement would we expect many such auctions to cease operations.

Interviews with several major livestock slaughterers in the Northeast support these conclusions of little change. They report they do not anticipate any significant change in the auction-dealer livestock marketing system in the next 5 to 10 years. They emphasized that if any changes are made it will be the producer, and only the producer, who will make them. They believed, however, the odds are great that producers will do little or nothing to alter the system. This puts the problem strictly up to producers and their organizations to devise a more efficient marketing system.

SLAUGHTERING INDUSTRY

The slaughtering industry is an important part of the livestock marketing system in the Northeast. It is this industry that furnishes the demand for farmers' cull cows and dairy calves.

In 1975, the Northeast, including all of Ohio, slaughtered more than 973,000 cows and 1.9 million calves in federally inspected slaughter plants. This volume represents 9.3 percent of cow and 49.1 percent of calf slaughter by federally inspected plants in the United States. The Northeast thus is a major calf slaughtering region.

The analysis in this section is based primarily on slaughter conducted under Federal inspection.⁵ Information on State-inspected slaughter plants is difficult to obtain but these plants handle only a small proportion of total slaughter. Furthermore, all formerly State-inspected slaughter plants in Connecticut, Massachusetts, New Jersey, New York, and Pennsylvania are now under Federal inspection.

Slaughter Trends

Cows

Cow slaughter in the Northeast, including Ohio, increased by 64 percent from 1968 to 1975. The region gradually increased its share of national cow slaughter from 10.2 percent in 1968 to 12.0 percent in 1973. During the heavy beef herd liquidation in 1974 and 1975, the region's share of national cow slaughter slipped back to slightly less than 9.5 percent.

Within the Northeast, federally inspected cow slaughter volume has shown a definite upward trend since 1968 in New York, New Jersey, and Pennsylvania. Cow slaughter declined substantially in New England, Delaware and Maryland, Virginia and West Virginia, and Ohio during 1968-75. Data on cow slaughter trends in individual States are in appendix table 12.

⁵This analysis is based on unpublished data collected by Animal and Plant Health Inspection Service (APHIS). These data were summarized and provided by Statistical Reporting Service with the permission of APHIS.

Calves

Northeast calf slaughter trended downward consistently from 1968 until it reached a low of 1.08 million calves in 1973. During this period, the region's share of national federally inspected calf slaughter was increasing, reaching a high of 59.6 percent in 1973. In the past 2 years, federally inspected calf slaughter increased by nearly 78 percent in the Northeast, putting it 11 percent above the 1968 level. However, national calf slaughter increased by 115 percent, so the region's share of the total dropped to 49 percent.

Calf slaughter volume trended downward in most Northeast States during 1968-75. Only New England has experienced increasing calf slaughter. Calf slaughter in 1975 was unusually large, both in the Northeast and the Nation, and all States except New Jersey and Ohio slaughtered more calves in 1975 than in 1968.

Data on calf slaughter trends in individual States are in appendix table 13.

Supply-Demand Balance

The Northeast's cull cow production appears to be about in balance with slaughter. The region is a deficit calf producer, however.

Cows

In 1974, the Northeast had an estimated 731,000 cull dairy and beef cows available for slaughter. An estimated 715,900 cows were slaughtered by federally and nonfederally inspected plants in the region, leaving a surplus production of 15,100 cows, or 2 percent of total production (table 12).

Seven of the 14 States had more cows available for slaughter than actually were slaughtered. Virginia was the largest surplus producer, having to export nearly 85,000 cows, or about 70 percent of its production. Vermont, Maryland, and West Virginia also were large surplus producers, exporting from 52 to 60 percent of their cows to other States.

Pennsylvania is the largest cow-slaughtering State and had the largest deficit production. It produced only 60 percent of the cows it slaughtered. New Hampshire, Massa-

Table 12—Estimated surplus and deficit of slaughter cow and calf marketings relative to total slaughter, Northeast, 1974

State	Cows	Calves
<i>Number</i>		
Maine.....	- 100	+ 8,900
New Hampshire.....	- 9,600	- 20,700
Vermont.....	+ 24,800	+ 18,800
Massachusetts.....	- 10,400	- 5,200
Rhode Island.....	- 10,900	- 2,700
Connecticut.....	+ 6,100	- 38,000
New York.....	+ 16,100	-311,500
New Jersey.....	- 9,100	-175,600
Pennsylvania.....	-114,200	+ 69,000
Delaware.....	+ 3,300	+ 3,600
Maryland.....	+ 23,400	+ 46,400
Virginia.....	+ 84,700	- 45,200
West Virginia.....	+ 20,900	+ 15,400
Northeast Ohio.....	- 9,900	+ 33,900
Total.....	+ 15,100	-402,900

chusetts, Rhode Island, and New Jersey—all small slaughtering States—imported 43 to 89 percent of their 1974 cow slaughter.

Maine was the only State whose production was about in balance with slaughter.

The imbalance of cow production and slaughter helps explain the cow price structure in some States. For example, the large surplus-producing States of Vermont, Virginia, and West Virginia all have low cow prices relative to the rest of the region. On the other hand, Pennsylvania, with its large deficit production has the highest average cow prices in the Northeast.

Calves

The Northeast had to import an estimated 402,900 calves in 1974 to supplement the 1 million calves available for slaughter in the region. This is 28.4 percent of the 1.4 million calves slaughtered by federally and nonfederally inspected plants (table 12).

As in the case of cows, seven States had a surplus calf production and the other seven had a deficit. Delaware, Maryland, northeastern Ohio, and West Virginia all exported a major proportion of their calves to other States, ranging from 62 to 94 percent. Although Pennsylvania had the largest surplus of calves, the excess represented only 25 percent of the estimated calves available for slaughter.

New York, the largest slaughtering State, had to import an estimated 311,500 calves, or about 46 percent of its total slaughter volume. Calves available for slaughter fell short of actual slaughter by 42 to 90 percent in New Hampshire, Rhode Island, Connecticut, New Jersey, and Virginia. The extent of calf movements into and out of Virginia probably is greater than indicated here due to the location of the major calf slaughterers in the State.

These data indicate that there is considerable movement of calves between States in the Northeast as well as movements into the region from other areas. But there is no consistent relationship between surplus and deficit production and calf prices.

In summary, the Northeast has sufficient cow slaughter capacity and an excess of calf slaughter capacity to handle the region's cull cow and dairy calf production. But, slaughter capacity is badly out of balance with supplies in many individual States.

Industry Structure

Number and Location of Plants

In 1974, the Northeast had 374 federally inspected plants slaughtering cows and 341 slaughtering calves (table 13). But most of these plants have only a small volume.

Pennsylvania had the largest number of both cow and calf slaughter plants, accounting for more than three-fourths of the total in each case.⁶ New York and Virginia had the second and third largest number of plants, respectively. Together, the three States accounted for 88 percent of federally inspected cow and calf slaughter plants in the Northeast.

Eight States had five or fewer plants slaughtering cows. In the case of calves, nine States had five or fewer slaughter plants.

Volume Slaughtered

Federally inspected slaughter plants in the Northeast slaughtered nearly 581,000 cows and more than 1.3 million calves in 1974 (table 14). Like the number of plants, slaughter

⁶This is due in part to all formerly State-inspected plants in Pennsylvania being under Federal inspection in 1974. All other States in the Northeast had some State-inspected slaughter.

volume was highly concentrated in a few States.

Pennsylvania was the leading cow slaughterer with nearly half the total volume. This State, together with New York, accounted for 75 percent of the region's total cow slaughter.

Calf slaughter is concentrated primarily in three States. The combined volume of New York, Pennsylvania, and New Jersey plants represented 78 percent of the region's total federally inspected calf slaughter. New York is by far the largest calf slaughtering State, with about half the total volume.

Geographic Concentration

Figures 4 and 5 show the location of the 20 Northeast counties with the largest federally inspected cow and calf slaughter.⁷ These counties accounted for about three-fourths of all cows slaughtered in the Northeast in 1974. The top five counties accounted for 41 percent.

Six of the top 20 counties were in Pennsylvania (fig. 4). These 6 counties had 16 plants that accounted for 78 percent of the State's cow slaughter. The remaining 267 plants in the State slaughtered only 22 percent.

New York had 7 of the top 20 cow-slaughtering counties. The 13 plants in these 7 counties accounted for 85 percent of the State's total cow slaughter, leaving only 15 percent slaughtered by the remaining 15 plants.

It is interesting to note that none of the top 20 counties were in States south of Pennsylvania. Yet Maryland, Virginia, and West Virginia produce about 27 percent of the estimated 731,000 cows available for slaughter annually.

A similar situation exists for calves. The top 20 counties killed about 7 of every 8 calves slaughtered in the Northeast in 1974 and the top 5 counties slaughtered 55 percent. Thus, calf slaughter is even more concentrated than cow slaughter.

Seven of the top 20 counties were in New York, the largest calf slaughtering State (figure 5). The 10 plants in these counties accounted for 85 percent of New York calf slaughter and 42 percent of total Northeast slaughter.

Pennsylvania, the second largest calf slaughterer, had 3 of the top 20 counties. Four plants in these counties handled two-thirds of the State's total slaughter volume.

While New Jersey had only 1 of the top cow slaughtering counties, 4 of the top 20 calf slaughtering counties were located in that State. Three of the four counties are adjacent to each other in northern New Jersey.

Only 2 of the top 20 calf slaughtering counties were situated south or west of Pennsylvania. Both were in southwestern Virginia. It is likely that the plants in southwestern Virginia obtain a large share of their calf supplies from outside the State.

Plant Size

Northeast cow and calf slaughtering is highly concentrated in the hands of a few large plants.

Cows.—Of the 374 federally inspected cow slaughter plants, 323, or 86 percent, slaughtered fewer than 2,500 cows in 1974 (table 15). They accounted for only 11.4 percent of total Northeast cow slaughter. Furthermore, 285 of these small plants slaughtered fewer than 500 cows in 1974. These small plants could not even handle a truckload of 40 cows a week.

⁷County volume is based on plants slaughtering more than 500 cows and more than 2,500 calves a year. These larger plants accounted for about 95 percent of 1974 cow and calf slaughter. The figures, therefore, present a good picture of the high degree of geographical concentration of slaughter in the Northeast.

Table 13—Federally inspected plants slaughtering cows and calves, Northeast, 1974

State	Cows	Calves
<i>Number</i>		
Maine.....	5	5
New Hampshire.....	1	1
Vermont.....	2	2
Massachusetts.....	3	3
Rhode Island.....	3	3
Connecticut.....	4	5
New York.....	28	25
New Jersey.....	8	9
Pennsylvania.....	283	263
Delaware.....	1	1
Maryland.....	7	6
Virginia.....	19	12
West Virginia.....	1	1
Northeast Ohio.....	9	5
Total.....	374	341

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr.

Table 14—Cows and calves slaughtered by federally inspected plants, Northeast, 1974

State	Cows	Calves
<i>Number</i>		
New England ¹	71,946	177,856
New York.....	157,028	666,894
New Jersey.....	11,183	178,239
Pennsylvania.....	280,449	203,828
Delaware & Maryland.....	8,446	2,487
Virginia & West Virginia.....	25,395	108,829
Northeast Ohio.....	26,325	2,127
Total.....	580,772	1,340,260

¹Maine, N.H., Vt., Mass., R.I., and Conn.

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr.

Table 15—Federally inspected cow slaughter, by plant volume, Northeast, 1974

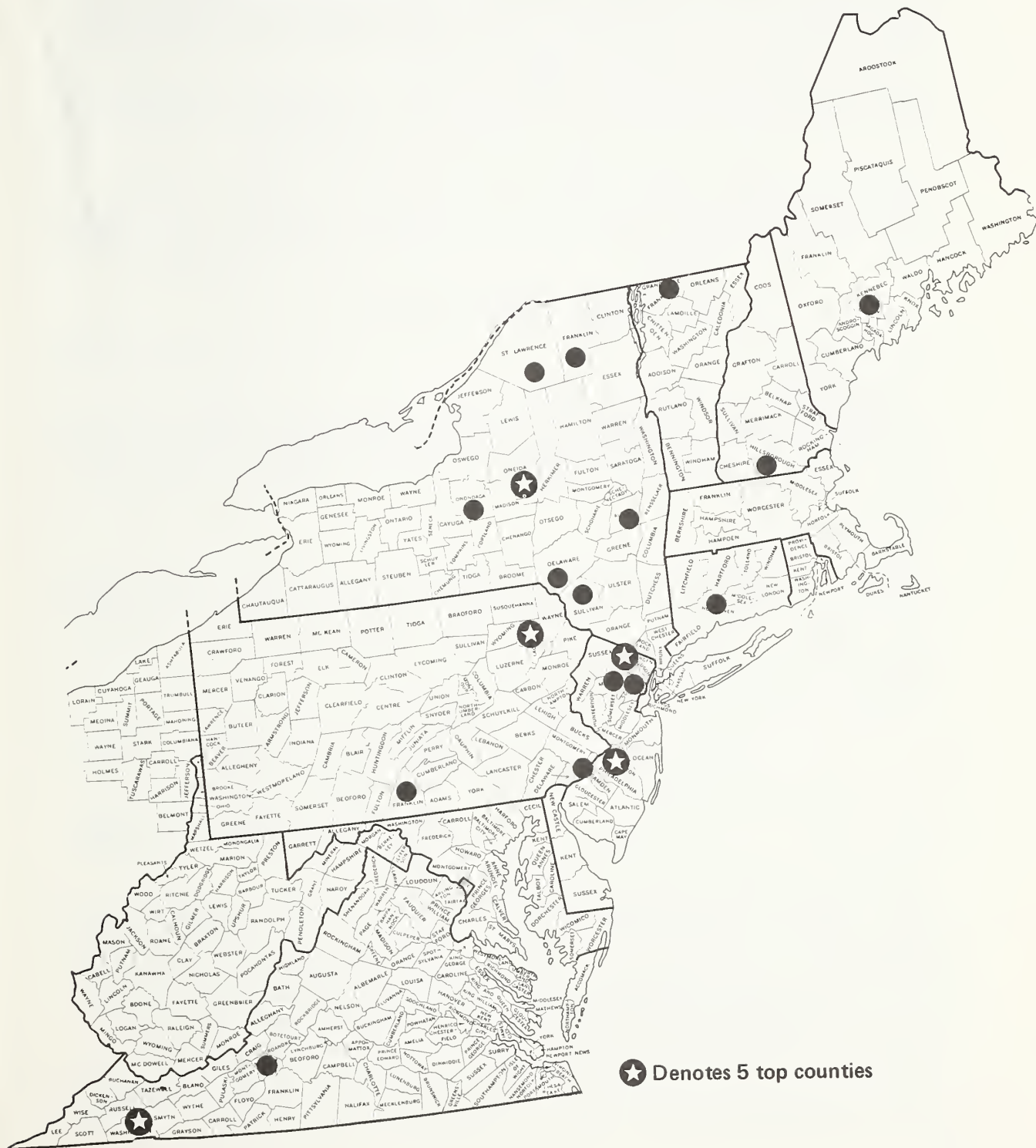
Head	Plants	Total volume	
	<i>Number</i>	<i>Head</i>	<i>Percent</i>
1-2,499.....	323	66,148	11.4
2,500-4,999.....	20	70,739	12.1
5,000-9,999.....	17	126,838	21.8
10,000-14,999.....	4	54,355	9.4
15,000-29,999.....	6	116,695	20.1
30,000-49,999.....	4	146,197	25.2
Total.....	374	580,772	100.0

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr.

Twenty Counties with Largest Federally Inspected Cow Slaughter Volume, Northeast, 1974



Figure 5 -- Twenty Counties with Largest Federally Inspected Calf Slaughter Volume, Northeast, 1974



At the other extreme, 4 plants slaughtering 30,000 or more cows accounted for more than 25 percent of total Northeast cow slaughter. The 31 plants that slaughtered 5,000 cows or more (8 percent of the plants) killed three-fourths of the cows.

How many of the 374 plants would be in a position to actively participate as buyers in a regional marketing system? The 323 small plants (1-2,499 head) could buy a maximum of less than a truckload and a half of cows a week. However, most of these (88 percent) slaughtered less than a quarter of a load a week. The 20 plants slaughtering 2,500-4,999 cows could handle up to 2½ truckloads a week.

Not until a plant reaches about 10,000-head annual volume is it in a position to regularly buy a truckload of cows a day. Only 14 plants could handle this volume. The four largest plants, of course, could buy more than three loads of cows a day.

Calves.—Northeast calf slaughter is concentrated in even fewer plants than cow slaughter. The eight largest plants (2.3 percent) accounted for 58 percent of the region's total federally inspected calf slaughter (table 16). Nearly 87 percent of the calf slaughter was concentrated in the hands of the 23 plants with 1974 volumes of 10,000-250,000.

Many small Northeast plants also slaughter calves. Of the 341 plants, 297 (87 percent) slaughtered less than 2,500 calves in 1974 and together accounted for only 4 percent of total slaughter. Nearly 9 out of 10 of these plants (266) slaughtered less than 500 calves, though.

Few Northeast plants could be considered potential regular calf buyers for a regional marketing system. None of the 306 plants killing fewer than 5,000 calves could handle as many as half a 250-head truckload a week. Only 20 plants could handle a full load a week, and only 5 kill 1 or more loads a day.

Plant Specialization

In designing a marketing system, it is useful to know whether packers specialize in slaughtering only cows or calves or whether they slaughter both. If they are not specialized, the system could offer both cows and calves to the same set of buyers. If they are specialized, however, cows and calves would need to be offered for sale separately to two sets of buyers, perhaps at different times.

Many packers slaughter both cows and calves, but they may slaughter only a few head of one or the other and do not represent a significant market. To simplify the analysis, we defined a cow slaughterer as one slaughtering 500 or more cows in 1974. To be considered a calf slaughterer, a plant had to have a 1974 volume of 1,500 or more calves.

On the basis of these criteria, 90 plants were cow slaughterers, and 60 of them specialized in cows. A total of 54 plants were calf slaughterers, 24 of which specialized in calves. Only 30 plants (26 percent) slaughtered both cows and calves.

How specialized are the larger plants that represent the major slaughter market? These are the 44 plants killing more than 5,000 cows or 10,000 calves, or both. Fourteen are specialized cow slaughterers and nine specialized calf slaughterers. Only 10 plants slaughtered more than 5,000 cows and 10,000 calves. It appears, therefore, that cows and calves would need to be offered for sale separately to two partially overlapping sets of buyers if the major slaughterers were to be brought into a regional market.

Another aspect of specialization is the weights and qualities of cows and calves that Northeast packers slaughter. This is important, for example, in considering how cows and calves should be offered for sale.

Little information is available except that obtained in interviews with seven of the larger Northeast cow and calf slaughterers. Of five that slaughtered calves, four indicated they purchase calves of all grades and weights. The remaining slaughterer purchases all grades and weights of bob calves or white veal calves weighing 80 pounds or more. This slaughterer does not buy heavy grass calves that will not produce a white carcass.

The requirements of the six cow slaughterers were more varied and restrictive. Only two firms buy cows of all grades and weights. Two others have no weight restrictions but specialize in lower quality cows falling in the canner, cutter, and boning-utility grades. A fifth slaughterer would buy only cows that would produce a carcass of 350 pounds or more, but had no grade restriction. The remaining respondent buys all grades and weights over time, but on a given day he buys only certain grades and weights that will meet the specifications of his current sales.

It appears, therefore, that all grades and weights of animals should not be grouped together for sale if they are to attract the interest of the widest spectrum of buyers. This is particularly important in the case of cows.

Sources of Livestock

Market Outlets

Northeast slaughterers have several types of market outlets from which they can purchase cows and calves. They may buy at auctions, from dealers, direct from producers, or at terminal markets, although the potential volume from the latter source is limited. The only information available on cows is for packer purchases of cows and bulls, but it should not differ greatly from cows only.

In 1974, auction markets were the major source of cows and bulls for Northeast packers; they also purchased a substantial proportion direct from producers and country dealers (table 17). Only about 1 out of 16 cows and bulls was purchased at a terminal market.

Packers' use of various market outlets varies widely among Northeast States. New England States have few auctions, and packers there purchase a high percent of their cows and bulls direct from producers or from country dealers. Direct sources also are important in Delaware and Maryland, but auctions dominate as a source of cows and bulls for New York, New Jersey, Pennsylvania, and Virginia packers.

Auction markets are even more important to Northeast packers as a source of calves, accounting for nearly two-thirds of packers' purchases in 1974 (table 18). Few calves were purchased at terminal markets.

Contrary to the situation with cows, auctions are the source of more than 85 percent of the calves for packers in all of the region but New England and New York. In these areas, direct purchases from producers and dealers are quite important, although they are the major outlet only in New England.

As appendix tables 14 and 15 show, there was no discernible trend in the importance of the various market outlets as sources of cows and calves during 1969 to 1974.

The analysis shows that Northeast slaughterers get about a third of their volume direct from producers and dealers. But, the information does not reveal the relative importance of producers and dealers in supplying this volume. Information obtained from interviews with seven large slaughterers sheds some light on this point. Weighted averages

of the estimated percents of cows and calves these slaughterers purchased from different outlets are:

Market outlet	Cows	Calves
	<i>Percent</i>	
Auction markets	56	85
Terminal markets	7	1
Direct from producers	5	1
Direct from dealers.....	32	13
Total	100	100

The seven slaughterers estimated they purchased about the same percent of their cows from direct methods and auction markets as did all Northeast packers. They bought about one-third of their cows from dealers, but only 5 percent direct from producers. Individual firms bought up to one-fourth of their cows direct from producers. Purchases from dealers ranged up to 50 percent and from 25 to 95 percent at auctions for individual slaughterers.

The sources of these slaughterers' calf purchases was quite different from all Northeast packers. Most calves were purchased at auctions, ranging as high as 95 percent for two plants. An average of only 14 percent were bought by direct methods, and most of these were purchased from dealers. Purchases direct from producers ranged up to 50 percent for individual plants and up to 100 percent from dealers.

The smaller plants tended to buy a larger percent of their cows and calves direct from producers and from dealers.

Procurement Areas

Although the Northeast produces a large volume of cull cows and dairy calves, the larger slaughterers must go outside their local areas to obtain live animal supplies. In the earlier section on supply-demand balance it was evident some slaughterers must even go outside the Northeast to obtain calves.

The seven large slaughterers interviewed indicated they regularly bought both cows and calves in two to seven Northeast States, including their home State. The major sources of cow supplies for most slaughterers were New York, Ohio, Pennsylvania, and Virginia. Maryland, Vermont, and West Virginia were included among the major supply States for a few slaughterers. The major sources of calf supplies were New York and Pennsylvania.

The respondent slaughterers estimated they purchased an average of about 16 percent of their cows and 11 percent of their calves outside the Northeast. They purchased cows at times from most of the southeastern States, including Florida, Georgia, North Carolina, South Carolina, Mississippi, and Kentucky. They also bought cows from as far west as Kansas City, Indiana, Illinois, and Wisconsin. At least three packers bought cows in Canada—one a substantial portion of his supply.

They also purchased dairy calves in southeastern States from North Carolina south to Florida and west to Louisiana. Some calves also were imported from Indiana and Canada.

Based on this information, it appears the Northeast could be considered a single

Table 16—Federally inspected calf slaughter, by plant volume, Northeast, 1974

Head	Plants	Total volume	
	<i>Number</i>	<i>Head</i>	<i>Percent</i>
1-2,499	297	56,569	4.2
2,500-4,999	9	34,119	2.6
5,000-9,999	12	87,582	6.5
10,000-24,999	8	123,157	9.2
25,000-49,999	7	261,783	19.5
50,000-250,000	8	777,050	58.0
Total	341	1,340,260	100.0

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr.

Table 17—Percent of cows and bulls purchased by packers from different market outlets, Northeast, 1969-74¹

Market outlet	1969	1970	1971	1972	1973	1974
	<i>Percent</i>					
Auction markets	47.8	51.7	55.4	47.5	62.3	56.7
Direct, country dealers, etc.	42.5	39.5	34.7	41.9	30.9	37.2
Terminal markets	9.7	8.8	9.9	10.6	6.8	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

¹Based on State where slaughtered. Excludes N.E. Ohio.

Source: U.S. Department Agr., Packers and Stockyards Admin., P and S Resumé, annual statistical issues, 1969-74.

Table 18—Percent of calves purchased by packers from different market outlets, Northeast, 1969-74¹

Market outlet	1969	1970	1971	1972	1973	1974
	<i>Percent</i>					
Auction markets	63.0	66.3	66.8	63.3	63.3	65.5
Direct, country dealers, etc.	32.0	29.7	30.2	32.7	33.4	32.2
Terminal markets	5.0	4.0	3.0	4.0	3.3	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

¹Based on State where slaughtered. Excludes N.E. Ohio.

Source: U.S. Dept. Agr., Packers and Stockyards Admin., P and S Resumé, annual statistical issues, 1969-74.

market area. A regional marketing system should be able to sell cows and calves from almost any area to the larger slaughterers in the region.

Types of Buyers

The seven large slaughterers purchased 63 percent of their cows and 86 percent of their calves at auction or terminal markets. They use either their own salaried buyers or order buyers to purchase this livestock.

Cow slaughterers estimated their salaried buyers purchased an average of 80 percent of their cows, while 20 percent were purchased through order buyers. The proportions of cows purchased by salaried buyers varied from 40 to 91 percent for individual firms.

Calf slaughterers used order buyers to a greater extent, purchasing an average of 42 percent of their calves through them. Most of their calves (58 percent) still were purchased by salaried buyers, with individual slaughterers using this type of buyer to purchase 40 to 82 percent of their calves.

It was common practice for these slaughterers to use order buyers when buying cows and calves at terminal markets.

Future

We asked the seven large slaughterers we interviewed what changes they anticipate in the Northeast cow and calf slaughtering industry in the next 10 years. Four of the respondents believe there will be little change in the industry if the supply of cows and calves does not decline severely. All slaughterers were concerned about the future availability of supply. Some believe the region's dairy cow population will continue to decline, particularly in light of the unprofitability of dairying in the Northeast in recent years.

Three slaughterers predicted a decline in the number of slaughtering plants in the future, with only the larger, more efficient plants surviving. One respondent indicated there will be a lot of plant modernization undertaken by Northeast slaughterers in the next decade.

As indicated earlier in this report, we don't see a drastic decline in the Northeast's cow population, so the supply of cows should be adequate to support a viable slaughtering industry. However, to the extent the dairy cow herd declines and is replaced with beef herds, the number of calves available for slaughter probably will be smaller. In addition, if cattle feeding again enters an expansion phase, some dairy calves probably will be diverted to feeding, leaving a smaller supply available for slaughter. These factors could force a contraction of the Northeast's calf slaughtering industry, which already has excess capacity.

We believe the number of plants slaughtering cows and calves in the Northeast will continue to decline. Many of the smaller plants will cease to operate as the cost of meeting ever more strict sanitation requirements becomes too burdensome and they find it increasingly difficult to serve the needs of the wholesale meat market. However, many of the smaller family-owned slaughterer-processors that have a long-established market for their branded products in a localized area probably will continue to operate.

These trends probably will result in a higher degree of concentration in the significant portion of the industry—those three dozen or so plants that now account for a large proportion of the region's cow and calf slaughter. Most of these slaughterers will survive and become larger and more efficient through modernization or construction of new plants. It is this segment of the industry that will provide the significant slaughter market for Northeast producers' cull cows and dairy calves.

MARKETING ACTIVITIES OF PRODUCERS

Several groups of Northeast producers have undertaken pilot marketing programs to determine if there may be ways to market their cull cows more profitably. They have had some experience in both marketing live cows to slaughterers and merchandising beef to consumers.

Live Cows

Virginia Farm Bureau Service Corp. sponsored a pilot program in Bedford County to market cull cows direct to a Pennsylvania packer. The plan was to assemble and ship one truckload a week. Value of shipped livestock was determined on the basis of grade and yield. The packer stipulated he wanted cows that would yield 400-pound or heavier carcasses hot weight. Cost of shipping the cows was prorated back to producers. Briefly, the program worked as follows:

On Thursday the packer quoted to the program manager a price differential he would pay over or under the National Provisioner's "yellow sheet" quotation on day of delivery. This price differential was relayed to a county keyman who contacted members. Cows were assembled and shipped on Tuesday for slaughter on Wednesday. Carcasses were graded on Thursday morning and producers were paid on the basis of this grade and hot carcass weight.

The program continued for 8 months. Producers reported they netted \$25 to \$75 per animal more than local auction prices. The principal reason for discontinuing the program was the inability to continue securing sufficient cows in the procurement area that were heavy enough to meet the packer's specifications.

Other weaknesses in the program were either failure to reject underweight cows at the assembly point for this packer or locate an alternative outlet for lightweight or "shell" cows, the need for more intensive organizational effort among producers, and lack of guaranteed delivery by producers. The packer's current head buyer has expressed enthusiasm for such a program if sufficient cows of an acceptable weight could be assembled.

The Virginia Slaughter Cattle Association sponsors a cull cow teleauction on an irregular basis at Dublin, Va. The Pulaski, Va., livestock market handles mechanics of the sale for \$1.25 per head plus 1 percent of gross sale value. For this fee, the market collects from buyers and pays consignors, provides facilities for assembling cows, and provides auctioneer and telephone facilities. Packers bid over a conference call network on lots of cows. Bidding is on a carcass basis. Price differentials are established for thin canner and light cows, but all grades are sold. Buyers pay for trucking and agree to slaughter cows and weigh carcasses within 24 hours after pickup. Cows remain on farms until pickup dates, times, and places are arranged.

While the program continues, it operates only irregularly, with a small annual volume. Prices are reported as better than at local auctions.

Beef Sales

A small group of Warren County, Pa., Farm Bureau members market nine animals every other week. Whole carcass frozen ground beef packed in 5½ pound plastic bags is sold from a truck in shopping center parking lots. One Farm Bureau member manages the operation for a fee of \$25 per head. Selected heavy cows are trucked to a small packinghouse. The packer slaughters for \$8 a head plus offal and processes for 9 cents a pound hot weight. The slaughterer permits the group to use his refrigerated truck in return for merchandising ground beef from one of his cows.

Producers report they net \$40 to \$50 an animal above National Provisioner's "yellow sheet" prices. They indicate their biggest problems have been locating a site for parking the truck on sale days and inability to handle all the cows members want to market. The group intends to keep this program at its present small scale.

Despite the gains these producers realized, our interviews with Northeast cow slaughterers indicate that merchandising whole carcass ground beef is not the highest value use of the carcass. Forty percent or more of a cow carcass is sold as higher valued table cuts.

A group of Farm Bureau members in Bucks County, Pa., recently organized the Bucks Meat Producers Cooperative, Inc. The cooperative's objective is to market members' livestock in the form of meat. The cooperative is presently marketing dairy cows, fancy veal, dairy beef, and fed beef, but plans eventually to expand its marketing program to include hogs and lambs.

Currently, members sell their cows to the cooperative on a live weight or carcass weight basis. The producer receives the top of the daily market news price quotation. For carcass weight sales, this live price is converted to a carcass price.

The cooperative has the animals custom-slaughtered and processed. It then sells the meat to cooperating farmer-owned retailers in Bucks County, such as roadside markets and jug milk stores. It also makes quantity meat sales to consumer buying co-ops in the Philadelphia area.

All the beef is sold in frozen form under the cooperative's "Bucks Best" brand name. Cow carcasses are being marketed in the form of ground beef (bulk and patties), chipped steak, and selected table cuts, such as beef tenderloin, rib eye steak, and boneless sirloin steak.

Member dairymen benefit in two ways from marketing cows through their cooperative. First, they receive top market price for their cows at the time of slaughter. Second, at the end of the cooperative's fiscal year, they will share in the profits of the marketing operations in proportion to the value of livestock they sold to the cooperative.

The cooperative's limited experience is not sufficient to determine the longrun viability of this type of enterprise or the extent of benefits to members. However, the experience of one producer is an indication of possible benefits. He sold a cow directly to a slaughterer for 3 cents a pound hot carcass weight less than he would have received from the cooperative. This amounts to \$16.50 less for a 1,100-pound cow yielding a 550-pound carcass.

Individual producer efforts at direct sales are few and scattered. They are usually associated with producer-distributor farm dairy store operations. One producer with a retail store had his cull Jersey cows ground into "Jersey Burgers." He claimed his returns on these cows were considerably increased due to the discount applied to his small-size Jersey cows. A number of farmers have cull cows butchered and sell the beef to neighbors or townspeople. The major problems limiting individual marketing efforts are the scarcity of small local slaughter and processing facilities and lack of access to mass buying markets.

Producer Retailing in Other Regions

There are many instances where individual producers and groups of producers in the Corn Belt and Southwest have entered the meat retailing business. Some specialize in

bulk retail sales to home freezer owners while others operate retail meat markets. Two characteristics common to most of these endeavors, particularly the producer-owned retail meat market are: (1) they lack experience over time to evaluate their viability, and (2) they merchandise a full range of retail beef cuts from fed cattle, and some handle other meats and poultry.

Such experience as they have cannot be transferred intact to the Northeast as most beef produced in the area is lower grade cow beef. Producers who are interested in merchandising beef from their cull cows might consider broadening their potential market by also handling some higher grade fed beef produced in the area.

REQUIREMENTS OF AN IMPROVED MARKETING SYSTEM

Before attempting to evaluate alternative systems for improving cull cow and calf marketing, Northeast producers need to determine what they want an improved marketing system to do for them. In this section, we set forth what we see as the major requirements of an improved marketing system. These requirements are:

1. *Provide greater competition for livestock.* To the extent possible, demand of the major regional slaughterers should be brought to bear on the sale of all cows and calves in the Northeast.

2. *Provide for more direct movement from producer to slaughterer.* Movements through several marketing facilities and multiple ownership changes between the producer and the packer should be eliminated.

3. *Increase efficiency of the marketing system.* Marketing facilities should be large enough and few enough to provide for most efficient marketing. Movement to slaughter should be as direct as possible to eliminate multiple loadings and unloadings and cross hauling.

4. *Improve pricing accuracy.* Animal description and pricing methods used should result in a price that accurately reflects the final product value of each animal.

5. *Ensure uniform prices for animals of the same quality and weight.* All producers in an area should receive the same price for cows and calves of like quality and weight on a given day.

6. *Provide for all livestock marketing needs of producers.* Provisions must be made to handle all marketable cows and calves regardless of their weight and grade. To the extent feasible, an improved marketing system also must provide for producers' needs for better markets for other livestock, such as hogs or feeder cattle.

7. *Provide a timely market.* An improved marketing system must provide marketing opportunities as frequently as needed by producers. Most producers interviewed indicated they needed a market on a weekly basis, but some could get by with a biweekly market.

8. *Provide for producer control and commitment.* Any new marketing system should be controlled by producers if it is to be successful in meeting the other requirements. This control, however, will require commitment on the part of producers in terms of their livestock, their capital, and their participation in organization affairs.

ALTERNATIVES FOR IMPROVING THE MARKETING SYSTEM

Based on the previous analyses, we have formulated several alternative cull cow and dairy calf marketing systems for Northeast producers to consider. These are not all the alternatives available.

Regional Auction Market Centers

Regional auction market centers would be much like traditional auctions, operating one or more days a week and handling all types of livestock.

These regional centers, however, would be located to serve multicounty regions within the Northeast. Their locations should be selected based on density of marketable livestock and demonstrated producer interest. In most cases, the market centers would be at least 100 miles apart, with each serving a market area that provides a volume sufficient to permit them to operate efficiently and attract buyer competition. Most producers interviewed indicated they are willing to ship cows and calves 50-75 miles or more to an assembly point. Many are doing so now.

Due to the large distance from the farm to the market center, most producers probably would not haul their own livestock to market. In areas where commercial trucking is unavailable or is available only at a high cost, local producers might organize shipping associations to transport their livestock to the market center. The shipping association could own its own trucks or contract with a private operator to provide the trucking service. The association should establish least-cost farm pickup routes and pickup schedules.

The auction facilities might be owned by a central organization, or local producers could own the facilities and lease them to the central organization to operate. In some areas, existing auction facilities might be leased. In any case, operation of the auction market centers should be coordinated by State or multi-State producer organizations.

If the alternative were adopted, a regional plan should be formulated for locating the regional auction market centers. This plan could then be implemented piecemeal as sufficient producer interest and financing was obtained.

Advantages and Disadvantages

One advantage of this alternative is that it provides a market for all types of livestock at weekly or more frequent intervals. Also, the market centers would be large enough to operate efficiently and attract enough buyers to provide a competitive market. By pooling livestock and offering them for sale in mixed-ownership lots of uniform weight and quality, producers would receive a uniform price for like animals and sale time would be held to a minimum—an attraction for buyers. But a grading cost would be incurred that most auctions do not now have.

A major disadvantage of this alternative is the large amount of capital that might be required to provide auction market facilities. Modern and efficient facilities for each regional market center could cost a half-million dollars or more. This requires a large capital investment by producers and probably substantial organization indebtedness. Financing a heavy debt load might make it difficult to compete with existing auctions.

This alternative is merely an extension of the traditional auction. As such, it is not a new idea that is likely to stimulate producers' imaginations and elicit their strong support and commitment.

Regional Electronic Exchange

With a regional electronic exchange, cows and calves would be assembled and prepared for sale at several locations throughout the Northeast. After being assembled, animals are sold by a central sales office through telephone or teletype communication with buyers in their plant offices. The essential features of this system are:

1. Assembly points at least 100 miles apart and serving a viable market area. Existing auction and county fairgrounds facilities used for assembly points to the extent possible.
2. Each assembly point operated 1 day a week, with one-fifth of the assembly points operated each weekday to provide packers a daily source of supply.
3. Shipping associations to provide farm-to-assembly point trucking in areas where necessary.
4. Weighing, grading, and pooling of animals if sold on live grade and weight basis.
5. Sale by telephone auction or teletype auction. Teletype auction may be ascending or descending price ("dutch") auction.
6. Pricing on live grade and weight or carcass grade and weight basis.
7. Price pooling at each assembly point when necessary to ensure price uniformity for animals sold on live grade and weight basis.
8. Operation of the electronic exchange by a regional producer organization. Local producer organizations could operate assembly points, with all points coordinated by the regional.

Advantages and Disadvantages

A major advantage of this alternative is that it ties all areas of the Northeast into one regional slaughter market. This would increase competition in many areas now effectively isolated from the major slaughterers and equalize the region's price structure, taking into consideration transportation cost differentials.

A regional electronic exchange reduces packers' costs and makes it easier for them to obtain cow and calf supplies. Most slaughterers we interviewed were enthusiastic about the possibilities of such a system and indicated they would be interested in buying on it.

Movement of livestock can be more direct than under the present system and the efficiency of the marketing system increased. Pricing accuracy would be improved, particularly if animals were priced on a carcass basis.

A possible disadvantage of a regional electronic exchange is that a large number of small Northeast slaughterers will find it difficult, if not impossible, to participate. But these firms slaughter only a small proportion of the region's cows and calves and thus do not have a major impact on the market.

Some packers want their buyers to see livestock before it is purchased. This could be an added disadvantage of a regional electronic exchange, particularly if cows and calves are sold on a live grade and weight basis. Those involved in the Virginia cow teleauction have found it difficult to live-grade cows and get a high degree of correlation between live and carcass grades.

Other possible disadvantages are that producers would have to wait longer for payment if livestock was sold on a carcass basis.

Regional Market Centers—Electronic Exchange

A third alternative is to combine elements of the regional auction market centers and the regional electronic exchange alternatives.

Regional auction market centers could be established in areas where the volume of marketable livestock and producer interest is sufficient to support them. In other areas, assembly points would be established. In both cases, existing facilities should be used to the greatest extent possible.

All cows and, perhaps, calves from both the auction centers and assembly points would be sold through a regional electronic exchange. The auction market centers would sell other types of livestock by conventional auction. When growth in volume makes it feasible, this livestock could also be sold through the electronic exchange.

Local producer organizations could operate both the regional auction market centers and assembly points. However, a regional organization would operate the electronic exchange, coordinate the location of all facilities, and control handling methods and procedures for livestock sold through the electronic exchange.

Advantages and Disadvantages

This alternative combines the auction center advantage of providing a market for all types of livestock in areas where needed with the electronic exchange advantage of tying all areas into a regional slaughter market. This combination presents producers with a new marketing method. They might be more inclined to support this alternative than the regional auction market centers alone. This alternative probably would result in higher marketing costs than a regional electronic exchange alone because of the inclusion of auction market centers. Other advantages and disadvantages are similar to those discussed for the individual alternatives.

Contract Sales to Packers

Under this alternative, producers contract with their regional marketing organization to sell all their marketable animals through the direct sales program and provide some indication of when they would be sold. The regional marketing organization, in turn, contracts with packers to buy a specified number of animals on a regular delivery schedule.

Assembly might be accomplished in the same manner as with a regional electronic exchange. The regional marketing organization directs the shipment of animals to slaughter plants so as to minimize transportation costs and maximize producers' net returns.

All livestock is sold on a carcass grade and weight basis. Price is determined using a formula based on the wholesale meat market. Price differentials above or below wholesale market quotations are established initially and renegotiated as the need arises.

Advantages and Disadvantages

This alternative ties all Northeast producers into a regional market, although not to the extent possible with a regional electronic exchange. Producers have a guaranteed market for their cows and calves and slaughterers have a guaranteed supply for at least a portion of their needs. Movement from farm to slaughter plant would be about as direct as possible and packers' buying costs reduced. Pricing accuracy also would be improved over present methods used for pricing most cows and calves.

Most packers interviewed recognized the possible benefits of contract sales. Five cow and four calf slaughterers indicated they would be interested in contracting with a

producer organization for a portion of their requirements ranging from 10 to 100 percent. They emphasized, though, that this would have to be a dependable, long-term arrangement.

Probably the major weakness of a contract sales program is the method of price determination, because price will not be determined in open competition. Some slaughterers, of course, do not wish to contract so they will not compete for producers' livestock. Another disadvantage is the requirement for producers to commit their animals to the program and plan their culling and marketing farther into the future.

One group of producers we met with indicated they were willing to commit their cows and calves to an improved marketing program and thought three-fourths of their neighbors would also. Another group indicated producer commitment was necessary for a new program to be successful in their area, but they were not eager to commit themselves to supporting an improved marketing system.

Meatpacking

Two of the four groups of producers we met with suggested that producers need to get into the meatpacking business to solve their cow marketing problems. This might be achieved in any of several ways.

The alternative requiring the least capital is for a producer organization to contract with existing firms to custom-slaughter cows and calves. The producer organization would then merchandise the carcasses.

The most expensive way for producers to get into meatpacking is through full ownership. This might be accomplished by either building a new plant or buying an existing firm. Buying an efficient existing firm with good management and established markets probably is the least costly and least risky way to acquire ownership.

Building a 50,000-head-capacity cow slaughtering plant, for example, might require an estimated \$3 million to \$4 million investment in facilities and operating capital. A producer organization will also need a capital reserve sufficient to carry the plant through 3 to 5 years of unprofitable operations. In addition, building a new plant adds to the region's excess slaughter capacity, particularly in the case of calves.

If Northeast producers were to get into cow slaughtering, they probably would want to explore the possibility of contracting with some of the fast food chains to supply a portion of their meat requirements. Such contracts should provide a market for table cuts as well as ground beef, so the highest value use could be made of the cow carcass.

Any venture into meatpacking should be based on producer commitment of both livestock and capital.

Advantages and Disadvantages

The major advantage of the meatpacking alternative is that it enables producers to maintain ownership and control over their livestock through an additional stage in the marketing chain and thereby increase their returns. In addition, it provides them a guaranteed market.

The primary disadvantage is that meatpacking requires a substantial capital investment and subjects producers to greater risk, particularly in the case of full ownership. In addition, full ownership reduces producers' flexibility to explore other solutions to their marketing problems.

Another disadvantage is that an organization could not legally engage in both slaughtering and live animal marketing. For example, if an organization is engaged in cow slaughtering, it cannot also market live animals.

Meat Retailing

A program of merchandising meat direct to consumers is considered a viable alternative only on a local basis. We believe such programs have a potential for marketing only a small number of animals and therefore are not the answer to the region's overall cow and calf marketing problems.

Local groups of producers no doubt can increase their returns through direct sales to individual consumers and consumer buying groups, particularly in areas close to large urban centers. There may even be opportunities for successful establishment of retail meat stores in some areas of the Northeast where there are concentrations of ethnic groups who have a taste preference for cow-type beef. The potential for marketing large quantities of cow beef to the general consuming public, except in the form of ground beef, appears quite limited. Opportunities for direct sales of veal appear to be even more limited due to the specialized and restricted demand.

There are some services a State or regional organization could provide local producer groups wishing to get into meat retailing. These organizations might:

1. Provide guidelines for organizing retail meat marketing programs.
2. Locate firms willing to provide custom-slaughtering and processing services.
3. Assist in negotiating custom-slaughtering and processing contracts or providing guidelines on reasonable custom rates.
4. Help establish farmers' markets where producers could retail their meat.
5. Assist producers in contacting consumer buying groups.

CONCLUSIONS

This study demonstrates that action needs to be taken to improve cull cow and dairy calf marketing in the Northeast. But who will initiate this action?

Existing marketing firms have a vested interest in the present marketing system and, for the most part, are not likely to initiate any changes. In fact, they are likely to strongly resist any change that does not involve them in an improved marketing system.

Major slaughterers appear receptive to changes in the marketing system, especially if these changes will make their procurement job easier. But, they are in no position to initiate or force change.

We conclude, then, the initiative for instituting an improved marketing system must come from producers and their organizations. However, it will be difficult to alter producers' present marketing patterns and persuade them to support any improved marketing system. Producers will be the major problem in gaining acceptance of change, not packers.

We strongly recommend that a regional livestock marketing committee be established to initiate planning for an improved marketing system. The committee would be responsible for evaluating alternative marketing systems and recommending courses of action. We suggest the committee concentrate its efforts on evaluating the first three alternatives.

Northeast livestock marketing planners will need to answer four questions:

1. What level of increased returns is necessary to attract producer support?
2. Which alternative system will most likely produce this level of increased returns?
3. What are the risks to producers?
4. Who will provide the leadership and resources needed to develop a new system?

Further study will be necessary to answer these questions. A preliminary evaluation should be made to select one or two alternative systems deserving of further study.

APPENDIX A—NORTHEAST PRICE STRUCTURE

Northeast producers' major concern with cull cow and calf marketing was low prices. Average prices Northeast producers received for cows declined from \$32.60 a hundredweight in 1973 to \$20.60 in 1975, or 37 percent. Cow prices in 1975 were the lowest since 1970, when they averaged \$20.30 a hundredweight. Average calf prices dropped from \$55.50 a hundredweight in 1973 to \$31 in 1975, a 44-percent decline. The 1975 average calf price was the lowest during 1970-75. Average cow and calf prices for each State for 1970-75 are in tables A1 and A2.

Price Relationships Within the Region

Average cow and calf prices vary widely among States in the Northeast.

Cows

Average cow prices in 1975 ranged from \$18.50 a hundredweight in West Virginia to \$21.90 in Massachusetts. Based on average prices over the 6 years, 1970-75, cow prices differed between States by as much as \$3 a hundredweight (table A3).

Pennsylvania, the second largest cow-producing State and the top slaughtering State, had the highest 6-year average cow price of \$25.20 a hundredweight. New York, the leading cow-producing State, had a lower average price than Pennsylvania by 70 cents a hundredweight. New York produced about 25 percent more cows than Pennsylvania in 1974, but its federally inspected cow slaughter was 44 percent smaller.

Virginia is the third largest cow-producing State, but it had next to the lowest average prices during the 6-year period. This State's cow prices averaged \$2.20 a hundredweight less than those in Pennsylvania, but were as much as \$3.20 less in 1 year. West Virginia had the lowest 6-year average cow price and was lowest during 5 of the 6 years.

What accounts for the low price structure in Virginia and West Virginia? It may be due in part to the high proportion of beef cows in these States' cow marketings. In addition, they have little cow slaughtering activity resulting in minimal in-State slaughter demand for their cows. There also is a transportation and shrinkage cost involved in moving surplus cows to out-of-State slaughter plants.

But do these factors justify the wide disparity between Virginia and Pennsylvania cow prices, for example? Transportation and shrinkage costs from Lynchburg, Va., to Philadelphia, Pa., are estimated at \$1.45 a hundredweight. Yet Virginia's average cow price was \$2.20 a hundredweight less than that in Pennsylvania.

Calves

Calf prices varied more widely among Northeast States than cow prices. In 1974, average calf prices ranged from \$28 a hundredweight in Massachusetts to \$51.30 in Ohio. Six-year average calf prices (1970-75) varied by as much as \$14.20 or more a hundredweight among the Northeast States (table A3).

The highest average prices were received by Ohio producers, but Pennsylvania ranked a close second. During the 6 years, Pennsylvania had the highest average price for 2 years and ranked second in 3 years. Delaware and Maryland also had relatively high calf prices. The New England States all had extremely low average calf prices that ranged from \$14 to \$15 a hundredweight less than the top State (based on 1970-74 average).

Contrary to cow prices, there seems to be little relationship between a State's slaughter activity and calf prices received by its producers. For example, New York

Table A1—Annual average slaughter cow prices received by farmers, Northeast, 1970-75

State	1970	1971	1972	1973	1974	1975
<i>Dollars per cwt.</i>						
Maine.....	20.60	20.70	23.80	32.70	26.60	21.50
N.H.....	20.10	20.20	23.30	32.60	26.10	21.40
Vt.....	19.10	19.20	22.30	32.50	26.10	21.00
Mass.....	20.40	20.70	23.80	33.00	26.60	21.90
R.I.....	20.40	20.70	23.80	32.80	26.10	21.40
Conn.....	20.40	20.70	23.80	32.90	26.10	21.50
N.Y.....	20.70	21.20	24.50	32.80	27.10	20.50
N.J.....	20.20	20.30	23.70	32.30	28.20	21.00
Pa.....	21.00	21.70	25.30	33.60	28.10	21.50
Del.....	19.90	20.00	23.50	32.70	27.00	20.80
Md.....	20.10	20.20	24.10	32.70	27.00	20.60
Va.....	19.40	19.70	22.40	32.10	24.90	19.50
W. Va.....	18.80	18.90	22.80	30.30	24.20	18.50
Ohio.....	20.20	20.60	23.80	32.70	25.80	20.50
Average.....	20.30	20.70	24.00	32.60	26.50	20.60
Mich.....	20.80	20.80	24.60	32.60	26.60	21.10
Wis.....	20.50	20.70	24.90	31.90	25.60	20.60
Ind.....	20.00	20.40	23.90	32.20	24.60	20.30
Average.....	20.50	20.70	24.70	32.10	25.60	20.60

Source: U.S. Dept. Agr., Statis. Rptg. Serv., PR 1-3, Agricultural Prices—Annual Summary and monthly issues, 1971-75.

Table A2—Annual average calf prices received by farmers, Northeast, 1970-75

State	1970	1971	1972	1973	1974	1975
<i>Dollars per cwt.</i>						
Maine.....	31.00	29.00	32.50	43.50	29.00	NA
N.H.....	30.50	28.50	34.00	42.00	29.50	NA
Vt.....	29.70	29.00	33.50	42.90	30.10	27.00
Mass.....	30.50	28.00	34.00	44.00	28.00	NA
R.I.....	30.50	28.00	34.50	42.50	30.00	NA
Conn.....	30.50	28.00	34.50	42.50	30.00	NA
N.Y.....	34.70	36.20	44.80	54.60	40.80	26.30
N.J.....	35.20	36.50	45.30	57.00	47.00	37.10
Pa.....	39.20	40.50	50.90	62.10	47.60	35.40
Del.....	39.00	39.70	48.40	61.50	47.60	33.20
Md.....	39.30	40.60	48.90	61.50	47.60	33.20
Va.....	34.90	35.60	44.00	54.80	36.70	35.30
W. Va.....	35.40	36.80	46.30	57.50	35.70	29.00
Ohio.....	37.60	40.00	48.00	62.00	51.30	38.40
Average.....	35.50	36.50	45.10	55.50	40.60	31.00
Mich.....	37.60	40.30	49.70	62.40	45.00	30.10
Wis.....	38.10	39.80	47.30	58.90	38.50	31.60
Ind.....	34.40	36.00	43.40	55.90	45.40	30.20
Average.....	37.90	39.70	47.30	59.00	39.00	31.50

Source: U.S. Dept. Agr., Statis. Rptg. Serv., PR 1-3, Agricultural Prices—Annual Summary and monthly issues, 1971-75.

NA = Not available.

slaughters nearly twice as many calves as it produces, but it had 6-year average calf prices \$6.30 a hundredweight less than those in Pennsylvania, which is a surplus calf producer. Three New England States with the lowest calf price structures also are deficit calf-producing States.

Interregional Price Relationships

Cow and calf prices in the Northeast States also bear some relationship to those in States outside the region because both livestock and meat are free to move inter-regionally. On the surface, Northeast cow prices appear to compare favorably with those in nearby Midwest States with sizable cow marketings. Northeast calf prices do not compare as favorably as cow prices, however.

Cows

The 1970-75 average cow price for Indiana, Michigan, and Wisconsin was \$24 a hundredweight, or 10 cents less than the Northeast average (table A3). No consistent price relationship was apparent during this period, though. Average cow prices for these States ranged from 90 cents less a hundredweight to 70 cents more than in the Northeast (table A1).

The question to be considered now is whether or not these price relationships are what we would expect them to be. Theoretically, the price differential between the Midwest and the Northeast States is a function of the cost of moving cows between the two points, including shrinkage. Because cows (or carcass cow beef) tend to move toward the large population centers on the East Coast, Northeast cow prices should be higher than those in the Midwest States by the cost of transportation.

Using current livestock trucking costs, 5 percent transit shrink, and 1975 average

Table A3—Average cow and calf prices received by farmers, Northeast, 1970-75

State	Cows	Calves
<i>Dollars per cwt.</i>		
Pa	25.50	45.90
N.Y.	24.50	39.60
Mass.	24.40	¹ 32.90
Maine	24.30	¹ 33.00
N.J.	24.30	43.00
Conn.	24.20	¹ 33.10
R.I.	24.20	¹ 33.10
Md.	24.10	45.20
Del.	24.00	44.90
Ohio	24.00	46.20
N.H.	24.00	¹ 32.90
Vt.	23.50	32.00
Va.	23.00	40.20
W. Va.	22.20	40.10
Average	24.10	² 40.70
Mich.	24.40	44.20
Wis.	24.00	42.40
Ind.	23.60	40.90
Average	24.00	42.40

¹1970-74 average price. 1975 average price not available.

²Excludes 1975 average prices in Mass., Maine, Conn., R.I., and N.H.

Source: Tables A1 and A2.

cow prices we estimated price differentials New York and Pennsylvania producers should have received above prices in Indiana, Michigan, and Wisconsin. These computed price differentials and the actual differentials are:

State	New York		Pennsylvania	
	Computed	Actual	Computed	Actual
Indiana	+\$2.67	+\$0.20	+\$2.30	+\$1.20
Michigan	+ 2.50	- .60	+ 2.20	+ .40
Wisconsin.....	+ 3.25	- .10	+ 3.18	+ .90

These estimates indicate that 1975 prices in New York and Pennsylvania were low compared with those in Indiana, Michigan, and Wisconsin. Producers in these two Northeast States should have received from \$1.10 (\$2.30 - \$1.20) to \$3.35 (\$3.25 + \$0.10) a hundredweight more for their cows relative to what producers in the three Midwest States received. For example, Pennsylvania cow prices should have been \$2.20 a hundredweight above those in Michigan, but they actually were only \$0.40 a hundredweight above. Thus, the 1975 Pennsylvania cow price level was \$1.80 a hundredweight lower than it should have been relative to Michigan.

Movement of live cows is not the only limitation on relative price levels in the two regions. The cost of moving carcass cow beef may be the limiting factor on the size of price differentials.

Again, we estimated live cow price differentials New York and Pennsylvania producers should have received above prices in the three Midwest States. These computations were based on the cost of shipping beef carcasses by truck from Indianapolis, Ind., Detroit, Mich., and Milwaukee, Wis., to Utica, N.Y., and Philadelphia, Pa. The computed and actual live cow price differentials are:

State	New York		Pennsylvania	
	Computed	Actual	Computed	Actual
Indiana	+\$0.83	+\$0.20	+\$0.58	+\$1.20
Michigan	+ .91	- .60	+ .66	+ .40
Wisconsin.....	+ 1.25	- .10	+ .99	+ .90

These estimates also indicate low 1975 cow prices in New York relative to the Midwest States. For example, New York prices should have exceeded Michigan prices by an estimated \$0.91 a hundredweight, but actually were \$0.60 a hundredweight less. New York's cow price level therefore was \$1.51 a hundredweight less than what it should have been relative to Michigan. It was \$0.63 a hundredweight low, compared with Indiana and \$1.35 low, compared with Wisconsin.

On the other hand, Pennsylvania's 1975 cow prices appear to have been at about the appropriate level based on the cost of moving carcass cow beef. Pennsylvania's average price was an estimated \$0.62 a hundredweight higher than it should have been compared with that in Indiana. But, its average price was 9 cents to 26 cents a hundredweight low relative to Wisconsin and Michigan, an insignificant difference considering the accuracy of the estimates. It is important to remember, however, that Pennsylvania had the highest cow price level in the Northeast.

Calves

The average calf price in Indiana, Michigan, and Wisconsin in 1970-75 was \$42.40 a hundredweight (table A3). This was \$1.70 a hundredweight higher than the average price for nine of the Northeast States. For individual years, average Northeast prices ranged from \$3.50 a hundredweight below to \$1.60 above the average for the Midwest States (table A2). As with cows, we would expect Northeast prices to be higher than in the Midwest States, due to the cost of transporting calves or veal carcasses to the important veal-consuming areas on the East Coast.

What should the calf price differential be between the Midwest and the Northeast? We estimated what price differential New York and Pennsylvania producers should receive above prices in Indiana, Michigan, and Wisconsin. These computed price differentials and actual differentials are:

State	New York		Pennsylvania	
	Computed	Actual	Computed	Actual
Indiana	+\$3.87	-\$3.90	+\$3.27	+\$5.20
Michigan	+ 3.52	- 3.80	+ 3.05	+ 5.30
Wisconsin.....	+ 4.85	- 5.30	+ 4.73	+ 3.80

The computations are based on current livestock trucking costs, 2 percent transit shrink, 2 percent death loss, and 1975 calf prices.

As the estimates indicate, New York calf prices in 1975 were far below what they should have been relative to Indiana, Michigan, and Wisconsin. New York producers actually received price differentials of \$7.32 (\$3.52 + \$3.80) to \$10.15 (\$4.85 + \$5.30) a hundredweight less than they should have, based on the estimates. For example, they should have received \$3.87 a hundredweight more than Indiana producers, but their average price actually was \$3.90 less than in Indiana.

Pennsylvania's relative position is very favorable, however. The actual calf price differentials for that State's producers exceeded what they should have been by an estimated \$1.93 to \$2.25 a hundredweight, except for Wisconsin. As with cows, Pennsylvania had a high calf price level relative to other Northeast States, being second only to Ohio.

An important factor to remember in using these price comparisons is that they reflect prices of feeder calves as well as dairy calves destined for immediate slaughter. Feeder calves could have a significant influence on the average calf price in certain States such as Virginia, West Virginia, Ohio, and Indiana.

Relationship of Live Cows to Carcass Values

Even if we assume intraregional and interregional cow price relationships are economically rational, Northeast producers still may not be receiving prices that reflect the meat value of their cows. We attempted to determine, therefore, whether live cow prices in the Northeast are in line with wholesale carcass cow beef prices.

The analysis estimated the net profit a packer would make on a 1,100-pound cow purchased in the Northeast with the carcass sold in the East Coast wholesale dressed meat market. The analysis used the average Northeast cow price for 1975, two levels of packer costs (procurement, inshipment, slaughtering, selling, and delivery), 1975 average hide and

offal value, and the 1975 average wholesale price for all grades of cow carcasses in the East Coast market.

Our estimates indicate a packer with the low level of costs would have had a net profit of \$8.57 a cow, or 3.26 percent of sales. A packer with the high level of costs would have had a net loss of \$2.68 a cow, or 1.02 percent of sales. In 1973 and 1974, 20 sectional meat packers had average net earnings of 1.44 percent of sales, and 92 packers of all sizes had average net earnings of 0.97 percent of sales.⁸

The efficient packer (low cost) in our analysis would, therefore, be making net profits of 2.5 to nearly 4 times those common in the industry based on 1975 average prices. The inefficient packer (high cost) would, of course, have a profit position much below other industry firms.

Relationship of Marketing Cost to Prices

The marketing costs involved in moving livestock from farm to slaughter plant help determine the price and net return producers receive for their animals. To the extent these costs can be reduced, prices or net returns producers receive, or both, can be increased.

We estimated the costs that would be incurred in marketing an average cow through an auction in the Northeast using two levels of costs. These estimated costs are:

Cost item	Low cost		High cost	
	Per head	Per cwt.	Per head	Per cwt.
Trucking to auction	\$ 6.00	\$0.55	\$ 8.00	\$0.73
Auction commission.....	3.49	.32	7.57	.69
Packer's buying cost.....	2.00	.18	3.00	.27
Trucking to packer.....	2.70	.25	2.70	.25
Total	\$14.19	\$1.30	\$21.27	\$1.94

Total marketing costs, excluding shrinkage, would range from \$1.30 a hundredweight to \$1.94. These costs represent 6.3 to 9.4 percent of the average price Northeast producers received for cows in 1975. Producers would pay directly about two-thirds of the low cost and nearly three-fourths of the high cost. Total costs affect a producer's net returns, however, because the packer attempts to deduct his share of the costs from the price he can afford to pay at his plant.

These total costs reflect the maximum amount by which producers' net returns could be increased through an improved marketing system, assuming no multiple handling of cows. Realistically, though, not all these costs could be eliminated. The auction commission and the packer's buying cost probably are the most fruitful areas for reduction. Trucking costs might be reduced somewhat by better scheduling of producer deliveries and more direct shipment to slaughter plants.

To the extent there is multiple handling of cows in the marketing system, these estimated costs would be higher. For example, if a dealer bought a cow at one auction and resold it at another there would be an additional auction commission of \$3.49 to \$7.57,

⁸American Meat Institute. Financial Facts About the Meat Packing Industry, 1974.

plus a transportation cost and a payment for the dealer's time and risk. Assuming a fixed packer paying price, the price producers receive would be reduced by an amount equal to these added costs. So, the reduction in producers' net returns from cows handled several times could exceed \$30 a head.

Evaluating Potential Gain

If a new or improved marketing system was designed with objectives of (1) substantially reducing selling commission and packer buying cost, and (2) largely eliminating multiple handling between producer and packer, an estimated \$10 a head improvement might be used for planning purposes. These improvements would also have an impact on calf marketing costs. A planning figure of \$5 a head improvement might be used for calves.

Given these rough estimates of potential gain, a legitimate question would be—What would this mean to the average Northeast dairyman? With an average herd of 50 milk cows, this average dairyman would annually market about 11 cull cows and 20 calves. The gain from more efficient marketing, if all such gain were returned to the producer, would be about \$210 a year.

In addition, increased packer buying competition should result in enhanced livestock prices. Pennsylvania producers have received more for their cows and calves in most years than producers in other Northeast States. What would be the impact on the average non-Pennsylvania dairyman if the prices he received for his cows and calves equaled those in Pennsylvania? This average dairyman would receive \$15.73 more for each cow and \$6.78 more for each calf, or about \$309 annually.

This combined savings in marketing costs and price increases of the magnitude described in this section would result in a \$519 annual gain for the average producer.

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Appendix table 1—Dairy and beef cows on farms, Northeast, January 1, 1970-75

State	Dairy cows						Beef cows					
	1970	1971	1972	1973	1974	1975	1970	1971	1972	1973	1974	1975
<i>1,000 head</i>												
Maine.....	67	66	61	61	59	60	9	9	10	11	12	12
N.H.....	37	36	35	34	32	33	2	2	4	4	5	5
Vt.....	205	205	195	195	189	192	6	8	16	15	15	14
Mass.....	64	63	58	57	54	55	4	6	8	8	8	8
R.I.....	8	7	7	6	6	6	1	1	1	1	1	1
Conn.....	66	63	58	58	53	55	4	5	6	6	7	7
N.Y.....	1,030	1,000	925	914	900	920	60	61	100	106	115	125
N.J.....	74	68	62	59	54	48	8	9	13	14	15	14
Pa.....	720	705	689	678	678	686	97	97	150	146	149	176
Del.....	15	14	13	12	12	13	5	4	5	5	5	5
Md.....	167	168	149	146	135	138	56	56	54	59	63	69
Va.....	223	220	182	172	160	159	487	490	557	593	605	621
W. Va.....	62	57	44	43	42	41	200	202	214	221	227	226
N.E. Ohio.....	NA	NA	NA	NA	NA	137	NA	NA	NA	NA	NA	124
Total.....	2,738	1,672	2,478	2,435	2,374	2,406	939	950	1,138	1,189	1,227	1,283

¹Excludes N.E. Ohio.

Source: U.S. Dept. Agr. Livestock and Meat Statistics. Statis. Bul. No. 333, June 1972; Statis. Bul. No. 522, July 1973; Statis. Bul. No. 543, June 1975.

NA = Not available.

Appendix table 2—Cattle marketed, Northeast and United States, 1969-74

State	1969	1970	1971	1972	1973	1974
<i>1,000 head</i>						
Maine.....	29	34	25	25	24	22
N.H.....	16	16	13	13	13	13
Vt.....	66	67	63	62	63	62
Mass.....	37	28	29	29	33	27
R.I.....	4	4	3	2	2	2
Conn.....	28	26	23	25	26	20
N.Y.....	291	329	303	295	278	272
N.J.....	32	31	37	38	27	33
Pa.....	451	416	391	401	331	350
Del.....	6	7	6	6	7	6
Md.....	83	89	83	83	85	65
Va.....	337	355	375	356	354	285
W. Va.....	79	95	89	87	86	87
Total.....	1,459	1,497	1,442	1,442	1,329	1,244
U.S.....	45,559	46,709	49,315	50,986	48,443	48,496

Source: U.S. Dept. Agr., Livestock and Meat Statistics. Statis. Bul. No. 333, June 1971; Statis. Bul. No. 522, July 1973; Statis. Bul. No. 543, June 1975.

Appendix table 3—Calves marketed, Northeast and United States, 1969-74

State	1969	1970	1971	1972	1973	1974
<i>1,000 head</i>						
Maine.....	41	37	34	38	37	34
N.H.....	23	21	22	22	19	19
Vt.....	131	127	121	121	120	110
Mass.....	42	38	37	33	30	26
R.I.....	4	4	4	3	3	3
Conn.....	39	38	32	30	31	31
N.Y.....	622	630	595	572	540	458
N.J.....	48	46	31	27	27	27
Pa.....	393	396	447	426	354	248
Del.....	7	7	6	6	4	5
Md.....	123	118	104	96	84	77
Va.....	214	208	200	192	184	171
W. Va.....	119	118	118	122	117	82
Total	1,806	1,788	1,751	1,688	1,550	1,291
U.S.....	12,598	12,076	12,117	12,226	11,667	9,454

Source: U.S. Dept. Agr., Livestock and Meat Statistics. Statis. Bul. No. 333, June 1971; Statis. Bul. No. 522, July 1973; Statis. Bul. No. 543, June 1975.

Appendix table 4—Hogs and pigs marketed, Northeast and United States, 1969-74

State	1969	1970	1971	1972	1973	1974
<i>1,000 head</i>						
Maine.....	12	11	10	8	9	9
N.H.....	16	16	14	15	14	15
Vt.....	8	8	6	5	4	4
Mass.....	97	98	88	89	80	82
R.I.....	10	5	11	10	9	9
Conn.....	12	12	12	10	10	10
N.Y.....	134	132	118	127	105	107
N.J.....	154	139	158	133	111	118
Pa.....	663	688	732	718	602	664
Del.....	65	58	86	90	78	97
Md.....	214	209	264	260	255	285
Va.....	684	639	814	751	674	747
W. Va.....	94	85	92	88	78	70
Total	2,163	2,100	2,405	2,304	2,029	2,217
U.S.....	88,074	87,422	99,586	91,514	82,329	85,933

Source: U.S. Dept. Agr., Livestock and Meat Statistics. Statis. Bul. No. 333, June 1971; Statis. Bul. No. 522, July 1973; Statis. Bul. No. 543, June 1975.

Appendix table 5—Sheep and lambs marketed, Northeast and United States, 1969-74

State	1969	1970	1971	1972	1973	1974
<i>1,000 head</i>						
Maine.....	10	10	9	10	6	9
N.H.....	3	3	3	3	3	3
Vt.....	4	3	4	3	3	4
Mass.....	6	5	4	4	4	4
R.I.....	1	1	1	1	(¹)	1
Conn.....	3	3	2	3	2	2
N.Y.....	59	55	57	56	56	53
N.J.....	1	4	6	6	6	4
Pa.....	97	92	95	84	74	101
Del.....	1	1	1	1	1	1
Md.....	11	12	11	13	12	11
Va.....	150	149	149	141	135	134
W. Va.....	128	122	121	136	108	105
Total	474	460	463	461	410	432
U.S.....	15,155	14,847	14,661	14,436	13,061	11,995

¹Less than 500 head.

Source: U.S. Dept. Agr., Livestock and Meat Statistics. Statis. Bul. No. 333, June 1971; Statis. Bul. No. 522, July 1973; Statis. Bul. No. 543, June 1975.

Appendix table 6—Auctions in the Northeast, 1960, 1965, 1969, and 1975¹

State	1960	1965	1969	1975
<i>Number</i>				
Maine.....	1	0	2	1
N.H.....	0	0	0	0
Vt.....	10	7	10	8
Mass.....	3	3	3	3
R.I.....	0	0	0	0
Conn.....	1	3	3	2
N.Y.....	60	54	54	46
N.J.....	7	8	7	6
Pa.....	54	53	47	41
Del.....	3	2	1	1
Md.....	14	16	17	13
Va.....	47	46	45	39
W. Va.....	21	21	21	18
N.E. Ohio.....	NA	16	14	11
Total	221	229	224	189

¹Excludes auctions handling only horses or special herd dispersal sales.

Source: U.S. Dept. Agr., Packers and Stockyards Admin., and N.Y. Dept. Agr., Div. of Mktg.

NA = Not available.

Appendix table 7—Cattle marketings and number handled by auctions, terminals, and dealers, Northeast, 1974¹

State	Farm marketings	Cattle handled by—		
		Auctions	Terminals	Dealers
<i>Head</i>				
Maine.....	22,000	(²)	0	7,680
N.H.....	13,000	0	0	3,428
Vt.....	62,000	27,606	0	32,064
Mass.....	27,000	9,110	(²)	14,998
R.I.....	2,300	0	0	0
Conn.....	20,000	(²)	0	5,536
N.Y.....	272,000	265,264	(²)	147,636
N.J.....	33,000	18,587	0	6,450
Pa.....	350,000	365,660	(²)	245,315
Del.....	6,000	(²)	0	7,797
Md.....	65,000	57,018	(²)	55,299
Va.....	285,000	561,464	(²)	305,317
W. Va.....	87,000	110,597	0	37,776
N.W. Ohio.....	NA	125,861	0	106,763
Total	1,244,300	³ 1,444,325	211,605	³ 869,296

¹Excludes 12 auctions and 62 dealers not reporting physical volume.

²Data not shown to avoid disclosing individual operations.

³Excludes N.E. Ohio volume.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr., and U.S. Dept. Agr. Statis. Bul. No. 543, Livestock and Meat, June 1945.

NA = Not available.

Appendix table 8—Calf marketings and number handled by auctions, terminals, and dealers, Northeast, 1974¹

State	Farm marketings	Calves handled by—		
		Auctions	Terminals	Dealers
<i>Head</i>				
Maine.....	34,000	(²)	0	7,480
N.H.....	19,000	0	0	7,350
Vt.....	110,000	55,167	0	41,770
Mass.....	26,000	18,583	(²)	14,496
R.I.....	3,200	0	0	0
Conn.....	31,000	(²)	0	1,670
N.Y.....	458,000	393,506	(²)	235,523
N.J.....	27,000	46,731	0	14,310
Pa.....	248,000	318,213	(²)	126,799
Del.....	5,000	(²)	0	8,327
Md.....	77,000	74,561	(²)	18,109
Va.....	171,000	191,204	(²)	41,606
W. Va.....	82,000	48,284	0	8,408
N.E. Ohio.....	NA	64,706	0	23,569
Total	1,291,200	³ 1,169,024	60,511	³ 525,848

¹Excludes 12 auctions and 44 dealers not reporting physical volume.

²Data not shown to avoid disclosing individual operations.

³Excludes N.E. Ohio volume.

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr., and U.S. Dept. Agr. Statis. Bul. No. 543, Livestock and Meat Statistics, June 1975.

NA = Not available.

Appendix table 9—Auctions, by cattle volume, Northeast, 1974

Head	N. Eng.	N.Y.	N.J.	Pa.	Del. & Md.	Va.	W. Va.	N.E. Ohio	Total
<i>Number</i>									
Unknown.....	1	3	0	5	1	2	0	0	10
1-1,999.....	3	15	2	5	2	4	3	2	36
2,000-3,999.....	4	7	3	4	2	8	5	0	33
4,000-5,999.....	3	5	0	7	3	2	2	0	22
6,000-9,999.....	3	9	1	6	5	7	4	5	40
10,000-19,999.....	0	7	0	12	1	7	4	1	32
20,000-39,999.....	0	1	0	1	0	9	0	3	14
40,000-69,999.....	0	0	0	1	0	3	0	0	4
Total.....	14	47	6	41	14	42	18	11	191

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Appendix table 10—Auctions, by calf volume, Northeast, 1974

Head	N. Eng.	N.Y.	N.J.	Pa.	Del. & Md.	Va.	W. Va.	N.E. Ohio	Total
<i>Number</i>									
Unknown.....	1	3	0	5	1	2	0	0	10
None.....	0	1	0	1	0	1	0	0	3
1-5,999.....	6	18	3	11	7	31	18	6	100
6,000-11,999.....	5	11	2	16	5	6	0	5	50
12,000-17,999.....	2	11	0	4	1	1	0	0	19
18,000-23,999.....	0	1	1	3	0	0	0	0	5
24,000-39,999.....	0	2	0	1	0	1	0	0	4
Total.....	14	47	6	41	14	42	18	11	191

Source: Unpublished data from Packers and Stockyards Admin., U.S. Dept. Agr.

Appendix table 11—Livestock dealers in the Northeast, 1969 and 1975

State	1969	1975
<i>Number</i>		
Maine.....	11	12
New Hampshire.....	18	19
Vermont.....	106	96
Massachusetts.....	20	30
Rhode Island.....	0	0
Connecticut.....	10	9
New York.....	275	242
New Jersey.....	34	34
Pennsylvania.....	268	252
Delaware.....	7	5
Maryland.....	54	43
Virginia.....	128	109
West Virginia.....	38	46
N. E. Ohio.....	NA	40
Total.....	969	1937

¹Includes 37 dealers who handled no cattle or calves and 33 who handled no livestock in 1974.

Source: U.S. Dept. Agr., Packers and Stockyards Admin.

NA = Not available.

Appendix table 12—Federally inspected cow slaughter, Northeast and United States, 1968-75

State	1968	1969	1970	1971	1972	1973	1974	1975
<i>Head</i>								
N. Eng. ¹	118,006	124,529	118,025	126,972	111,881	85,888	71,946	104,404
N.Y.	146,549	177,056	197,670	197,166	206,832	179,519	157,028	² 211,975
N.J.	8,666	10,437	12,228	11,085	15,255	13,145	11,183	27,911
Pa.	131,476	118,929	145,353	149,198	³ 200,607	276,319	280,449	412,400
Del. & Md.	23,428	22,566	19,743	25,085	23,588	15,570	8,446	11,705
Va. & W. Va.	36,449	48,310	32,507	29,996	26,506	26,653	25,395	62,689
Ohio	128,256	121,395	102,575	132,416	105,421	83,414	82,604	142,413
Total	592,830	623,222	628,101	671,918	690,090	680,508	637,051	973,497
<i>1,000 head</i>								
U.S.	5,785	5,998	5,373	5,627	5,402	5,659	6,794	10,420

¹Maine, N.H., Vt., Mass., R.I., and Conn.²All State inspected plants in N.Y. became subject to Federal inspection in July 1975.³All State inspected plants in Pa. became subject to Federal inspection in July 1972.

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr., and U.S. Dept. Agr., Livestock and Meat Statistics Statis. Bul. No. 522, July 1973 and June 1974; Statis. Bul. No. 543, June 1975.

Appendix table 13—Federally inspected calf slaughter, Northeast and United States, 1968-75

State	1968	1969	1970	1971	1972	1973	1974	1975
<i>Head</i>								
N. Eng. ¹	154,345	166,847	172,893	185,582	176,753	144,320	177,982	195,585
N.Y.	751,902	757,571	701,968	690,570	625,706	521,398	666,913	² 884,013
N.J.	314,896	303,772	271,938	307,470	256,482	168,825	177,740	261,373
Pa.	306,457	289,554	241,522	193,694	³ 194,615	179,309	204,831	342,207
Del. & Md.	2,261	4,623	5,986	5,078	3,068	1,687	2,465	3,591
Va. & W. Va.	181,738	175,123	136,019	114,508	81,181	54,189	108,647	220,245
Ohio	16,311	13,603	18,566	17,325	15,047	7,618	5,307	6,028
Total	1,727,910	1,711,093	1,548,892	1,514,227	1,352,852	1,077,346	1,343,885	1,913,042
<i>1,000 head</i>								
U.S.	3,876	3,637	3,024	2,807	2,421	1,808	2,355	3,896

¹Maine, N.H., Vt., Mass., R.I., and Conn.²All State inspected plants in N.Y. became subject to Federal inspection in July 1975.³All State inspected plants in Pa. became subject to Federal inspection in July 1972.

Source: Unpublished data from Statis. Rptg. Serv., U.S. Dept. Agr., and U.S. Dept. Agr., Livestock and Meat Statistics Statis. Bul. No 522, July 1973, and June 1974; Statis. Bul. No 543, June 1975.

Appendix table 14—Percent of cows and bulls purchased by packers from different market outlets, by State where slaughtered, Northeast, 1974

State	Auction markets	Direct, country dealers, etc.	Terminal markets	Total
<i>Percent</i>				
N. Eng. ¹	22.5	68.7	8.8	100.0
N.Y.	56.5	41.5	2.0	100.0
N.J.	82.0	15.4	2.6	100.0
Pa.	64.6	26.8	8.6	100.0
Del. & Md.	15.4	84.6	0.0	100.0
Va.	54.6	40.9	4.5	100.0
W. Va.	53.3	46.7	0.0	100.0
Average	56.7	37.2	6.1	100.0

¹Maine, N.H., Vt., Mass., R.I., and Conn.

Source: U.S. Dept. Agr., Packers and Stockyards Admin., P and S Resumé, annual statistical issue, 1974.

Appendix table 15—Percent of calves purchased by packers from different market outlets, by State where slaughtered, Northeast, 1974

State	Auction markets	Direct, country dealers, etc.	Terminal markets	Total
<i>Percent</i>				
N. Eng. ¹	42.7	53.9	3.4	100.0
N.Y.	53.6	44.3	2.1	100.0
N.J.	92.5	7.5	0.0	100.0
Pa.	90.0	3.9	6.1	100.0
Del. & Md.	100.0	0.0	0.0	100.0
Va.	86.4	13.6	0.0	100.0
W. Va.	0.0	0.0	0.0	0.0
Average	65.5	32.2	2.3	100.0

¹Maine, N.H., Vt., Mass., R.I., and Conn.

Source: U.S. Dept. Agr., Packers and Stockyards Admin., P and S Resumé, annual Statistical Issue, 1974.

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